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Computer Weekly

Thursday, January 7, 1982 Number 790 30p

Computer Output Microfiche
LA

Baker's IT revolution got underway at the weekend.

IT Year campaign launch

by Boris Sedacca

THE government's awareness programme for Information Technology Year has begun with a full-page advertising campaign in the national newspapers aimed at the general public.

The campaign kicked off with an advertisement telling the public they can be contacted automatically by their houses over the telephone to report a roof leak after hearing a weather forecast, and give the house permission to ring a roofing company.

The launch of Information Technology Year 1982 has followed on from the International Year of the Disabled with promises of financial aid from the Department of Industry estimated at £2 million to manufacturers of special aids for the disabled.

Funding has previously been provided by the Manpower Services Commission and the Department of Health and Social Security but now the IT82 organisers are looking to the DoI to play a more active role.

Rates to stay as computer snags loom

by our Parliamentary Correspondent

COMPLEXITIES of a new computer system seem certain to prevent an early replacement for local authority rates.

Environment Secretary Michael Heseltine has been considering a local sales tax or local income tax to replace the outdated rating structure, but has been forced to accept 1987-8 as the earliest date for their introduction. The abolition of rates was promised in the Conservative Party manifesto at the last General Election.

A Green Paper* issued before Christmas outlined the difficulties of moving to a new system. Heseltine has asked for comments on the paper, which is a discussion document, by March 31.

In one type of sales tax considered by the Green Paper, a link with VAT, the hold-up was found to be the bottlenecks at the VAT computer centre in Southend.

The centre consists almost entirely of outdated ICL System 4s. Early last year the government ordered three 2966 mainframes to replace them, but changing over involves extensive re-programming. The VAT authorities have told the Department of Environment that the introduction of a sales tax cannot be contemplated until the new systems are fully operational.

The other version of local sales tax would require local authorities to set up their own tax administrations, which would almost certainly need to be computer-based.

This would require a great deal of detailed planning and it would be unlikely that these could be completed much earlier than five years from a decision to proceed.

A local sales tax would in any case imply restrictions on local authorities' freedom to make frequent changes of rate, because any rate change would cause problems for businesses.

If local sales tax accounting were to be integrated with VAT accounting, businesses which used the VAT retail schemes would have to carry out accounting adjustments or possibly an extensive stock-taking.

Large traders with computer-based accounts, such as the major retailing chains, would have to carry out re-programming, as would other concerns which produced all their accounts from a single central source.

The government concluded that among the leading options for replacement of domestic rates, a local sales tax would cause local authorities the greatest difficulties for stable financial planning.

The time needed was also a drawback in going for a form of local income tax, the Green Paper made clear.

The introduction of local income tax integrated with the national tax system would require extensive changes in the design of the computerised PAYE system.

The time needed both to introduce local income tax and to computerise PAYE would inevitably be greater than for either alone, and there would be a high degree of risk involved in trying to do both at once.

It would therefore be a question of suspending computerisation of PAYE to introduce local income tax on a manual basis or postponing local income tax until computerisation was complete.

*Cmd 8449 from HM Stationery Office.

HESELTINE . . . Election promise.

UK goes to market in Dubai

HUGE markets for UK computer exports are in prospect in the Middle East, with rapid growth already taking place.

Confirmation came before Christmas at the Gulf Computer Exhibition and Conference in the Dubai International Trade Centre, the first events of their kind in the region. They were backed by Computer Weekly and its new journal Middle East Computing.

UK exports of computer equipment to the Middle East for 1980 were £26 million, according to government trade statistics, and constituted the major part of the estimated £60 million non-weapon DP systems imported into the region from around the world.

This figure can be multiplied several times when management contracts, training, software supply and other services are included.

Dubai was the scene of the first venture overseas by the new British Information Technology Export Organisation, dubbed ExportIT. It has been set up with a grant from the Department of Industry and director Bill Wells visited the Gulf Computer Exhibition just three weeks after officially taking up his post.

On show from the UK at the Gulf Computer Exhibition were Selcoo, Systime, Racal-Milgo, the NCC and Prestel among others. ICL chose the occasion to launch its Perq into the Middle East.

Companies claiming to have booked business at the exhibition included Systime with a £50,000 order, DHL which says it sold five word processors off the stand, and Airedale Air Conditioning which says it concluded orders worth £25,000.

● Full report page 15.

NEWS BRIEF

£400,000 ICL profit

SHAREHOLDERS of ICL have authorised the company to increase its share capital so that management can go ahead with a rights issue which is expected to raise over £32 million. Initial indications suggest the issue will be taken up in full, putting the company on the first rung of its climb back to full financial health.

The 1980-81 accounts issued with the results of the shareholders' meeting show that in the second half of 1981 ICL made a trading profit of £400,000 before interest charges.

DEC price cuts

DIGITAL Equipment has announced a 25% price cut on disc drives and an additional 10% reduction to "non-profit institutions." The reductions have been made in response to competition from outside original equipment manufacturers of disc drives and memories selling into the DEC market.

Telemail trial

BRITISH Telecom is running a limited trial of GTE Telenet's Telemail electronic mailbox system. Later this year a decision will be made on whether to offer a service based on Telemail in addition to the similar service BT is marketing with Dialcom from next month.

15% rise

PROGRAM product prices are likely to rise by a steep 15% for IBM users following an announcement from the US of a price review to take full effect in April. The rises hit hardest in large-machine products like IMS/VS. Newer products and those which have been restructured recently are excepted, including all 4300 processors, 3081 processors, Displaywriter,

HUGHES . . . CBE for services to exports.

Logica chief 'singled out' in Honours List

by David Crayor

INFORMATION technology suppliers have got short shrift in the New Year Honours List, with only Philip Hughes, chairman of Logica Holdings, singled out for an award. Hughes has a CBE for services to exports.

Hughes agreed that it was "very odd" that he should be the only prominent figure in the industry to appear on the list. There is "no reason why I should be singled out," he said.

But Logica has consistently had a high proportion of its business outside the UK, currently nearly half of turnover.

The last time he made the calculation, Hughes reckoned that Logica accounted for 20 to 25% of all computer service exports from the UK. Logica Holdings, which is part owned by the government through the National Enterprise Board, had turnover of just over £15 million in 1980.

Although its operating profit fell to £0.68 million, it was the company's success in its overseas operations which enabled it to increase turnover by 25% in the year.

Logica has expressed its belief that the US market, where the company had significant growth in the recent past, offers the greatest potential for future expansion.

In 1981 Logica concluded a merger of its US subsidiary and Freyberg Systems Associates, a professional services company.

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For more details concerning specific inventory and pricing, please contact: Sarah Haywood, System Industries Trade & Exchange, at Woking (04862) 5072 or see Market Place for details of equipment available now.

Key role emerges for IBM 8100 comms processor

by Boris Sedacca

IBM's communications-oriented 8100 processor is beginning to reveal itself as a central element in the company's Distributed Office Systems strategy.

At the heart of this is a program running on the 8100, the Distributed Office System Facility (DOSF) providing both computing and word processing functions.

Under IBM's old divisional structure, the 8100 was a Data Processing Division (DPD) product, dependent on the DPD sales effort. IBM's other major computer division, the General Systems Division (GSD), was better equipped to sell smaller machines the size of the 8100, while DPD preferred to concentrate on mainframes.

Shortly after the reorganisation, IBM announced a product from the old DPD stable, the 4321, which blurred the role of the 8100, because the 4321 is clearly aimed at the same customers as was the 8100 originally.

Although the 4321 has more clout than the 8100 for straightforward data processing workloads at remote sites, the 8100 has better host communications facilities and its Cobol is compatible with Cobol on the larger IBM mainframes running under the MVS operating system, while Cobol under the 4300 Series DOS/VSE is not.

The Distributed Office System Facility which runs on the 8100 is compatible with IBM's existing 3730 Distributed Office Communication System and allows users to use the same screens and files, but with an expanded filing capacity.

Another IBM program product, the Distributed Office Support System (DISOSS), adds communications features to DOSF, allowing DOSF/8100 and 3730 systems to communicate with each other through a central host mainframe, and to create, maintain and share central files.

It also allows documents to be passed electronically through the system using an existing IBM program product, Storage and Information Retrieval System (STAIRS), and documents may be created and manipulated using a Document Composition Facility (DCF).

A Document Interchange Facility (DIF) provides high-level access between the 8100 (or 3730) and document formatting facilities on the host.

These strategic software products provide an indication of IBM's future plans for office automation in general and for the 8100 in particular, with IBM's System Network Architecture (SNA) as the basic discipline.

IBM has also found a pioneering user for this strategy in Europe – the Norwegian equivalent of the British National Oil Corporation, Statoil.

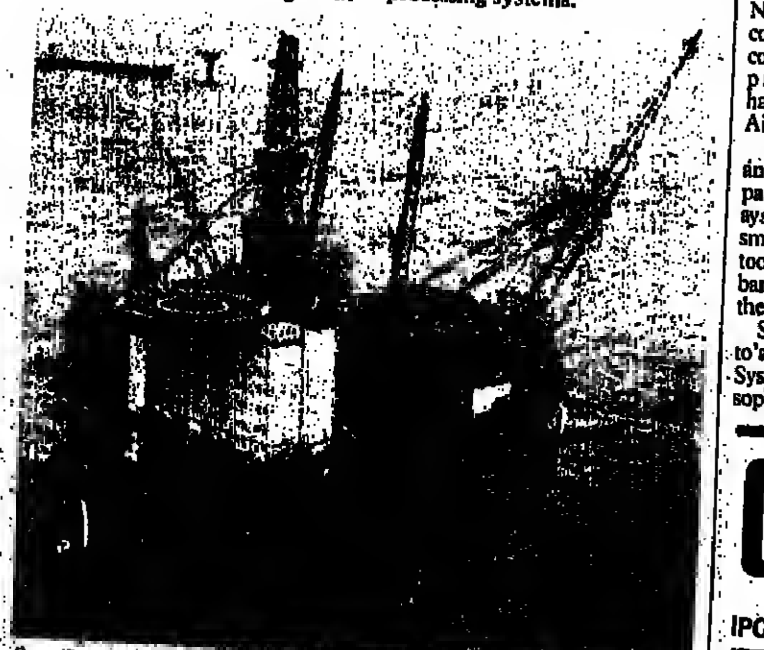
Statoil has 12 IBM 8100s installed currently and plans to have 22 by mid-1982 in its ambitious office automation project. All the equipment will be rented.

The DISOSS project was started in late 1980 but only began running in May 1981 because of problems experienced with the standard IBM package release. The package runs under IBM's Information Management System (IMS)/Virtual Telecommunication Access Method (VTAM) and Statoil had difficulty in co-ordinating the appropriate skills as it was one of the first DISOSS users.

Statoil expects to derive a number of tangible benefits from the system. Heavy typing loads resulting from the occasional large project will be able to be distributed informally between the text co-ordinators assigned to each 8100. It will also help in contract negotiations when drafts need retyping.

However, some problems still have to be ironed out. Some Statoil offices are too small to make full use of an 8100.

Another problem is that of text interchange to non-IBM systems, particularly in the case of outside contractors using their own text processing systems.



Statoil's administrative workload from large projects such as the above Statfjord platform will be better shared with IBM's distributed office system.

CHISHOLM . . . Bidding with confidence.

UK consortium could scoop Nato contract

by Claire Gooding

NATO's plans for an early warning defence system could represent several hundred million pounds of business to the four British companies which have banded together to bid for the contract.

The system is estimated to be worth £300-£400 million in software alone, and a total of £1,000 million over the next ten years.

British Defence Software (BDS), a pooling of skills between SPL, CAP, Leasco and ICL, is an attempt to increase the British slice of the Nato cake. In the past, large Nato contracts have gone to US corporations (also operating in consortia because of the size of the projects), particularly the hardware merchants like Hughes Aircraft.

Now the emphasis is changing, and software is playing a larger part in putting together such systems. This gives a chance to small organisations, individually too weak to stand a chance, to band together and bid for part of the contract.

Software is now the key of Nato's Air Command and Control System (ACCS), designed to be a sophisticated data network which will keep all the ground forces of Nato in touch with one another. The project is almost certain to be written in Ada, the new real time language defined by the US Department of Defence for military applications.

CAP and SPL both have experience in Ada, and John Chisholm, CAP's representative on BDS, says that the group is somewhat ahead of the game already. On a project of this size there is a long way to go before the first contract, but, says Chisholm, "we wouldn't be bidding if we weren't confident."

ACCS itself is only part of a larger Nato communications scheme, the Joint Technical Information Distribution System (JTIDS). Described by one avionics expert as a "databus in the sky . . . a sort of ring main by which every component of the forces is connected," the JTIDS will share information gathered from ACCS and the Airborne Warning and Control System (AWACS).

At present each country has its own Air Defence Ground Environment, and any intelligence on troop or air force movements is not automatically shared.

"The big issue in today's defence environment is command control," explained Chisholm. "You can have the best weapons money can buy but if you don't know what to do with them, they're useless."

His attitude to ACCS is businesslike: "It's no difference from any other computer system, but the problems are magnified: just the consequences of your mistakes are that much greater."

The partnership of BDS will go forward as the British representative to join a larger and international consortium, provisionally referred to as the Nato Defence Consortium (NADCO). This is likely to be made up of European representatives of similar status to BDS, such as Cap-Gemini-Sogeti of France.

Even so, there is no certainty that the European consortium will win against the hardware merchants of the US which have traditionally dominated in such projects.

Leasco and ICL are contributing to BDS their wide experience in defence and military applications. While the winning software consortium will have the final choice of hardware, ICL's presence on BDS will not necessarily dictate ICL kit.

Scicon to replace a Digital vintage

by Donald Kennett

SCICON is to market a replacement for the 1960s vintage Digital Equipment DX-11, a device which allows DEC users to access facilities based on IBM mainframes.

The replacement, called the KDX-11, is a microprocessor-based device which will enable DEC users to make connections to IBM hosts supporting networks based on IBM's Systems Network Architecture, instead of only the more limited bi-synchronous protocol links supported by the DX-11.

It will also end users' uncertainty of the DX-11's future, since its age and its hard-wired design make it difficult to debug and maintain.

The KDX-11 was developed by DEC's communications specialist team in Annecy in South Eastern France at the request of Scicon, which needs such a device to support its range of software products aimed at DEC users wanting to work with IBM mainframes.

KDX-11 will be available from April at about £15,000. Scicon has an exclusive licence for the first 80 units sold in the UK and the rest of Europe, and is negotiating a licence for the US. Many DX-11 users are US defence organisations.

The Scicon software products dependent on the device run on DEC PDP-11s and VAX-11s. They now enable DEC users to link networks based on DECNet to IBM SNA hosts via the IBM block-multiplexed Channel interface, the fastest and most efficient means of communicating with an IBM mainframe.

IBM prices up in US

by Andrew Thomas

IBM has announced an immediate 4 per cent price rise on equipment purchase prices in the US, and rental and lease rates will go up by 8 per cent in April. Prices in Europe will be unaffected, said an IBM spokesman.

Newer products, the 3081K for example, and hardware covered by recent re-pricing, such as most 3033 processors, which had average price cuts of 10 per cent, are excluded from the increases.

Prices for service and program products are also increased, maintenance rates and publication prices are up by 10 per cent and from April, monthly maintenance charges and software services will go up by 10 per cent.

D'Agapeyeff . . . "Rules can be changed."

'Britain could lose the expert systems market to Japanese'

by David Craver

THE shadow of the Japanese looms over yet another rapidly expanding field in the computer industry – expert systems. And unless the UK is willing to devote significant resources to develop the emerging technology, the initiative in what is predicted soon to be a major industry will be lost, according to speakers at a management tutorial sponsored by the British Computer Society.

In one of the more controversial presentations of the day, Alex d'Agapeyeff, ex-chairman of software house CAP-CPP and now an independent consultant, said the reason expert systems were suddenly in the ascendancy was "perhaps because of the influence of Japan on backward countries like our own."

He said the Japanese, who have made expert systems central to their development of fifth generation computers, were putting in $500 million to $1 billion as seedcorn money.

It is not so much financial resources which are necessary, but a change in attitudes and skills to make good use of new techniques, according to Sir Ieuan Maddock, principal of St Edmund Hall, Oxford.

The problem is how to develop expert systems without undermining the role of experts, Maddock said. "It is a dangerous fallacy to think we will consult a VDU to diagnose our ills," he added, but such systems will extend the range of our human specialists.

Max Bramer, a lecturer at the Open University, defined an expert system as "embodying organised knowledge about some area of human expertise which enables it to perform as a skilful and cost-effective consultant."

Expert systems, which are a function of software rather than hardware, can make judgments on the basis of data supplied to them.

There are over 40 high performance expert systems now working, mostly in the US, he said, but very few as yet regularly in use in the field. He called on the UK educational, scientific, and business community to develop expert systems, because "the Japanese certainly are."

The current algorithmic approach to programming, which "pretends to be precise", was causing the programming of business applications to grind to a halt because of their complexity, according to d'Agapeyeff.

But the advent of the microcomputer had begun to eliminate the consideration of machine efficiency in the cost/performance equation, he said. Expert, or knowledge-based, systems turned most programming ideas on their heads, with the heuristic, or rule of thumb, approach giving the end-user a much closer interaction with the computer.

"Rules can be changed if you don't like them," d'Agapeyeff said.

Fired for running his own business at work

by Andrew Thomas

AN analyst has lost his claim for unfair dismissal following the discovery of unauthorised programs and data on his employer's IBM 3033.

In August 1980, three mystery programs and data files were discovered in the library allocated to senior programming staff at the Eagle Star Insurance Company's Cheltenham data centre. Further investigation revealed a program designed to aid the completion of football pool coupons. Senior systems analyst Michael Hayward was identified as the guilty party and subsequently dismissed.

When the evidence for Eagle Star was given, it transpired that the reason for Hayward's dismissal was rather more than the pools [illegible]. His programs and data [illegible] test run by management [illegible] turned [illegible] be an accounting service for a catering company run by Hayward's girlfriend. Hayward is a director and company secretary of the operation.

Between February and May 1980, one program had been run 43 times and another 25 times. Hayward claimed that the software had never been used for business and that all the catering company's accounting was done manually, although no evidence of this was produced at the hearing.

Hayward's main defence was that, shortly after his dismissal, another employee of Eagle Star had been discovered misusing computer resources but had only been suspended.

The company's view on this was that Hayward's offence was the more serious because he was misappropriating computer resources for the benefit of his own business.

Watchdog M[illegible]ttack £200 million l[illegible] loan guarante[illegible] to ICL

by our Parliamentary Correspondent

CRITICISM of the government's decision to support ICL with a free £200 million bank loan guarantee over the next two years has come from the Commons' watchdog committee on public spending.

The committee asked whether the Department of Industry would receive any direct financial return for its guarantee to ICL and it had been informed that the government was not making any charge because in ICL's financial position that would be to take away with one hand what it was giving with the other.

The select committee disputed this decision. It said it appeared to them that the giving of a guarantee of this sort provided a valuable financial benefit to the company which should thereby be able to negotiate significantly reduced interest rates on overdraft facilities from its bankers.

The select committee said it was surprised that the DoI considered that no charge was appropriate, especially as a feature of an effective guarantee was always likely to be that cover was given for a higher amount and longer period than the company should need to overcome its immediate cash crisis.

It recommended that the DoI should review its policy relating to guarantees of this nature. In future cases it should consider some form of charge which might take the form of a deferred payment that could be reduced if the company was able to dispense with the guarantee, or any part of it, at an earlier date than agreed.

The select committee reported that it accepted that the decision to provide a guarantee for a limited period was an appropriate means of dealing with ICL's cash flow difficulties. And it trusted that the DoI's intention to design limits that would avoid the need for any call on the guarantee would prove successful in practice.

The DoI conditions include a promise to watch closely ICL's review of longer term business opportunities including its association with other companies which might strengthen its commercial position, assist with the cost of research and development and secure the interests of its customer base.

The Select Committee noted that although the new management team dropped partnership negotiations in train in May 1981, it remained part of the new management's strategy to seek collaborative ventures to assist in consolidating ICL's commercial position.

The committee agreed with the Department of Industry that it would be undesirable to allow a partner to pick and choose the most profitable aspects of ICL's business for a joint venture. The substantial support in the past ICL had received from public funds directly and through preferential purchasing must remain an important factor in assessing partnership proposals.

Time-lag on new product complaint

by Robert Parry

THE time-lag between manufacturers' talk of new products and their actual appearance can be frustrating for users. An advertisement placed by Compuskill, of Romford in Essex, in the July 1981 issue of Personal Computer World, offered among other things paddles and a colour encoder for the Acorn Atom microcomputer. When a member of the public found that the encoder and paddles would not be available for two months, he complained to the Advertising Standards Authority.

Compuskill told the ASA that after it had supplied the advertisement the paddles and encoders proved unreliable and were withdrawn for further tests. The publishers were asked to amend or withdraw the advertisement, but it appeared in its original form. The ASA was happy with the explanation, though the complaint was neither upheld nor dismissed.

Nick Yates, one of Compuskill's partners, said, "It hasn't caused us any problems."

France wins Xerox office automation factory

by Jack Gee

FRANCE has pipped the Netherlands at the post to win the favours of Xerox for a £10 million investment in the company's first European office automation equipment factory.

Production will begin at an existing Xerox plant in Neuville-en-Ferrain, near Lille, enabling North France to provide a launching pad to compete for a major slice of the European market.

Xerox already has 680 workers at Neuville refurbishing photocopying machines. They will begin manufacturing electronic typewriters, scanners for Xerox's Shugart discs and its Diablo terminals this spring.

Following Xerox's investment, employment will be maintained at the Neuville factory and more jobs could be created.

In the medium term Xerox plans to export 60 per cent of output to Western and Eastern Europe.

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We change the way the world thinks

First licence won for Unix update

by Claire Gooding

A COMMERCIAL software house in the City of London, CDS Computer Services, has stolen a march on other British systems specialists by getting the first licence for System III, the follow-up to Western Electric's successful operating system Unix.

Unix has been waiting in the wings to become the standard portable operating environment of the Eighties. Western Electric's move to introduce its successor coincided with the US ruling that the telecommunications giant would now be allowed to sell software into the DP market.

System III has even more facilities than Unix and is likely to bring Western Electric a significant presence in the data processing market.

CDS will be selling source and binary licences to users in the UK, and is already getting orders and enquiries from a varied cross-section of users.

"People are beginning to find out what's going on," said CDS chairman David Saunderson. "They are discovering that binary licences are a cheap way of getting System III facilities.

"In the Digital Equipment market, where operating system licences are quite high in any case, it may well push out the DEC OSs."

CDS took a commercial decision to follow the Unix route after some market research, and plans to offer applications as well as the actual licences for System III. At the moment the lack of applications software is the only thing hampering the Unix movement, which is already strong among OEM and systems suppliers.

System III is totally compatible with Unix, and is likely to help rather than split the movement as it will appeal to large organisations.

"A lot of people have been cautious about spending money with Western Electric" said Saunderson. "We are rather proud of being the first British software house to take the step with System III."

Ex-BCS chief sets up Third World charity

BOGOD . . . "What I saw horrified me."

by Maggie McLening

"MISUSE of computers" in developing countries has inspired Julian Bogod, ex-strategic marketing manager for ICL's international division, to set up a charity to promote computing in the Third World.

"What I saw horrified me and I decided to do something about it," he says.

The result is the newly-formed UK Council for Computing Development, for which he now works full-time as director. Bogod feels that a key factor for computing development overseas is to have government will and understanding behind computer projects, providing support in such areas as education.

"There is a tendency for the early stages to consist of private installations set up by multinational companies and staffed by expatriates. It's difficult to recruit local staff as they have no training," he comments.

As president of the British Computer Society in 1979-80, Bogod presented a paper in Mexico on computing development which also led him to contacts with the governments and private companies in Jamaica, Nigeria, Singapore, Indonesia and Hong Kong.

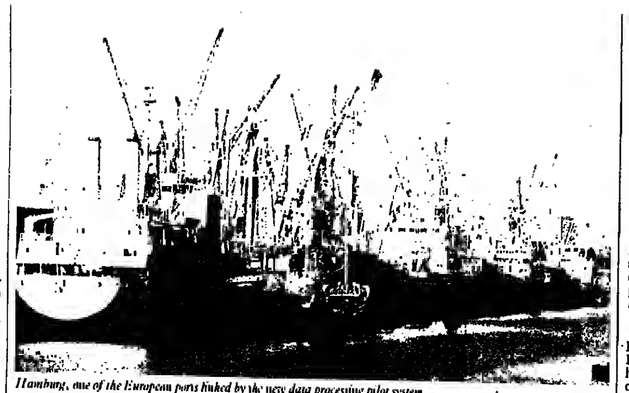
Bogod sees the role of the UKCCD as advisory, and at the Second National Seminar on Computer Use sponsored recently in Sri Lanka by the International Labour Organisation advocated carefully planned computing growth to avoid costly mistakes.

"The developing countries need help to enable them to take advantage of world-wide computing advancements. They should not try to re-invent the wheel," he said.

There will, however, be no financial support from British overseas aid funds.

Membership fees for the UKCCD are on a sliding scale according to category and size of company, varying from £5 for an individual to £20,000 for government members and companies with more than 5,000 employees. According to Bogod, there are currently 80 individual members and 32 corporate, including ICL, the BCS, the NCC, Ferranti and British Telecom.

Companies joining as industry members may expect "growth in business opportunities overseas" and "access to information about overseas markets", while commercial members may expect "long-term improvement in economic climate", according to the UKCCD prospectus. In return they will be expected to share their technical expertise and resources with the Third World.



Hamburg, one of the European ports linked by the new data processing pilot system.

Pilot comms network links major European ports

by Philip Hunter

AFTER 10 years of development the major European ports have been linked by a pilot communications network. Its developers hope it will lead to a de facto world standard.

The pilot system enables members of the EVHA, the European Ports' Data Processing Association to tune in to a computer centre in Copenhagen by telex, intelligent terminal or teleprinter. Information on operations, and ship movements are available now and there will be a study on exchange of details of dangerous cargoes.

Most large ports of the European Communities and Spain subsidise EVHA and nine of them, including the Clyde Port Authority in Glasgow, are involved in the first working part of the exercise, the pilot network of ship movements. The European Communities put up about £350,000 for this first phase, with EVHA supplying the remainder.

The exchange of hazardous cargo information will begin next year with the Port of London and Medway taking part. "The idea is to make this transfer of information easier," explains Robin Russell, managing director of the wholly owned subsidiary of Clydeport Authority, Clydeport Data Management.

He adds that ports now dispose of information once it is no longer of any use. The final system, expected in 1985, should enable ports receiving dangerous cargoes to know in advance when to expect them and the exact nature of the hazard.

The network will be able to handle several standard protocols and be telex compatible as well as taking telephone lines.

The Copenhagen centre runs on an IBM 3033 and an Amdahl 470, switching between the two.

Software for the project is being written by a consortium of European companies led by ERNO of Germany with Kamsax of Denmark and KLM of Holland. A British member of the consortium decided to bid for the tender on its own – and ended up losing out altogether.

A parallel but independent project is in progress at EASI, the European Association for Shipping Informatics, a sister organisation of EVHA.

There is also an almost identical project in the US and the EEC is keen to have its network adopted as the world standard, Russell adds.

Additions to 5520 range

by Boris Sadaeca

IBM has enhanced its recently-launched small business computer, the 5520 Administrative System, and added new models to the range.

The enhancements include IBM 3270 SNA emulation for a 5253 display station. This provides support for handling host database information and the ability to switch between 5520 and 3270 modes without terminating the suspended session. Information displayed in 3270 mode can be saved for use in 5520 text mode.

New models of the 5525 system unit — models 21, 31, 32 and 51 — are extensions of existing models 20, 30 and 50. The maximum number of 5253 display stations has been increased to eight models on the model 21 from six on the model 20, and 15 on the model 32, from 12 on the model 30.

Models 31 and 51 will support 12 and 18 display stations respectively.

Also announced is a wide-carriage version of the 5219 printer, the 5229.

NAS ousts IBM in major Asian coup

by Kevin Cahill

NATIONAL Advanced Systems, the American company which markets Hitachi-built plug compatible IBM mainframes, has notched up a major success in the biggest IBM installation in Asia, outside Japan.

The Hong Kong-based Hong Kong and Shanghai Bank, which is currently awaiting the outcome of Monopolies Commission investigation into its bid for the Royal Bank of Scotland, was an exclusively IBM site until the recent announcement of the $2 million lease commitment to take a four Mbyte AS9000N. The machine, to be installed in September, is intended to complement the bank's two 3032s which are scheduled to reach their capacity limit by the end of this year.

The current 3032s are in the bank's back-up centre and the initial commitment includes a plan to upgrade the AS9000 in 1984 to a 12 Mbyte 10 mips machine, the AS9000. This implies that the bank will look to the PCM machine to provide capacity for the foreseeable future and that IBM is no longer the leading supplier.

The NAS machine was ordered by the bank despite the fact that NAS has no office in Hong Kong, whereas IBM does have an office in the Colony.

In an effort to best off the NAS threat IBM offered a 3081 which was out then available in South-east Asia. John Strickland, the DP chief at the Hong Kong and Shanghai Bank, said the IBM machine had features "which were unsatisfactory from our point of view."

The bank's major online systems are intended for running on a uniprocessor and the 3081H is a very tightly coupled dual processing machine.

Another factor thought to have influenced the bank is that the NAS machine will support the OS/VSI operating system which the bank uses, whereas the 3081 only uses MVS.

The loss of the bank order is a blow for IBM which earlier in 1981 lost another site at Cathay Pacific Airlines to Sperry Univac.

The South-east Asian computer market, centred on Hong Kong, is reckoned to be one of the most promising growth areas in the world over the next few years.

SALES BRIEF

£200,000 system for arts centre

BARBICAN Arts and Cooference Centre has ordered a £200,000 box office computer system from London-based Space-Time Systems.

The system is written in Fortran to run on a Digital Equipment PDP-11/44 under RSX-11 and will support 16 sales positions equipped with a VDU and ticket printer. It is to be installed in March.

Bank order

BARCLAYS Bank bas ordered 45 Diablo 1640 receive-only daisywheel printers from Zygal Dynamics of Bicester for £112,000. They will be used with Apple microcomputers in its regional branches for word processing and statistics gathering.

Replacement

CITY-based insurance broker C. T. Bowring has ordered a £54,000 Rediffusion R1800/30 office computer to take over claims documentation and batch entry work from an older Rediffusioo system.

NCR upgrade

CZECH car maker Skoda has upgraded the two NCR I-8200s at its UK subsidiary's offices to an I-9040, expanding the disc capacity from 40 Mbytes to 324 Mbytes, so as to add motor-cycle and agricultural equipment and spares inventories to its stock control system which previously only handled cars.

Research aid

THE Socis! Scieoce Research Counoil has installed a £40,000 256 Kbyte Kode XL40 with a 10 Mbyte dise and five VDUs to provide offline data entry facilities for records of research contracts, grant applications and post-graduate training funds, which are trasomitted over o dialled telephone connection to a bureau for processing.

Fire control

CLWYD-based remote data sequisition speeialist Remdsq has woo a seeood order for its year-old fire brigsde command and control system, Commadsq. The £180,000 order from the Isle of Wight County Council is for a system with a master station eootaining a two Mbyte bubble memory and 10 outstations, which is due to replace existing call-out equipment by the autumo.

Custom built

THE UK's first custom-built geetic engineerlog fermentation plant, belog built by US pharmaceutieal company G. D. Searle at High Wycombe, is to be equipped with a £100,000 Keot K90S control system from process cootrol specialist Brown Boveri, Kent.

First contract

COPE Allman subsidiary Counting House Computer Systems has won the first cootract for its ITS integrated teohniael system, which is to play a central part in Teeside Polytechnic Computer Science department's pilot CAD training scheme, one of the first to be supported by the EEC Social Fund.

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- ☐ **Thursday 10th June, 1982** Manchester – Midland Hotel *Payroll Seminar*
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MSA The Software Company

Olivetti well on target after first year as PCM

by Buris Sedacea

ITALY'S major office equipment manufacturer, Olivetti, closed its first full year in the IBM plug-compatible mainframes market well on target with a total of 55 systems iosalled in Europe.

The company has sold 37 IPL-manufactured machines targeted at the IBM 4300 series and 18 Hitachi machines, 13 of which are in the IBM 3033 power range and five competing with the 3081.

Olivetti had set itself a UK target of ten machines – comprising seven IPL machines and three Hitachi machines, one of which would be a 3081 equivalent – but now has 12 machioes installed. According to Derek Lewis, managing director of Olivetti Computers (UK), four of these are built by Hitachi.

"Our brief was to establish a wide base of machines to complete Olivetti's product line, which would then put us in a position to rival IBM in Europe. Coupled with a background of the EEC wanting to end IBM's monopoly position in Europe, we found both the Italian government and the EEC very supportive.

"At the time of our entry into the PCM market in January 1980 the days of big profits were over, though there are clearly still some margins to be made.

"If we were to continue only in the office automation market, our base would be gradually eroded by IBM's moves ioto the market. We were the last into the PCM market with a total product line and the return on smaller mainframes meant that we could not expect to make big profits," said Lewis.

Olivetti first expanded its operations into Spain, where no other PCMs were operating and where it already had a sizeable operation.

Lewis continued: "The UK was chosen as the first testbed for a European battleground. We decided to pick our management and sales team from people with a minimum of ten years' experience straight from IBM.

"I believe we are now second only to Amdahl in the number of machines installed, and ahead of the other PCMs."

Lewis rebutted suggestions that Hitachi had intended Olivetti to confine the sale of Hitachi machines to Italy. National Advanced Systems and the German chemicals group BASF also sell Hitachi machines in Europe, creating some embarrassing disruptions in the market for Hitachi.

LEWIS . . . "PCMs should not be fighting each other."

"There is no surprise element concerning Hitachi. Our contract with them contains a clause clearly stating that we could market their machines in Europe, the Middle East, South Africa, and Central and South America.

"A price fixing agreement or an agreement to split Europe between ourselves would be illegal, but although we investigated the possibility of a joint venture agreement with NAS this was not feasible because we operate differently."

Lewis added that be did not want a war with NAS because the real "enemy" was IBM.

Bad start for data encryption devices

by Boris Sedaeca

THE market for data encryption devices has shown little growth and is expected to remain small, according to a report by the US market research firm International Resource Development.

Three years ago the promulgation of the National Bureau of Standards' Data Encryption Standard (DES), coupled with the introduction of DES encryption equipment by major vendors such as IBM, had been expected to trigger a big movement towards their use by commercial and industrial users, says the report, entitled Data, Text and Voice Encryption.

But today, sales of IBM's 3845 and 3846 data encryption devices are reported by IRD as being "very disappointing". Eight semiconductor vendors have introduced DES chips or chip sets, actions which the report describes as "ridiculous, considering the very small number of devices which are required on the market, and the high cost of engineering new chips."

Dovis Foulger, one of the authors of the report, said: "If trends from the last three years continue, we see no reason to believe that encryption will take off."

Replying to IRD's contention that sales of its encryption devices have been disappointing, IBM stated: "Sales of the 3845 and 3846 have been consistent with market demand for encryption devices in general."

IBM also rebutted a recent report in The Times suggesting that it had deliberately not produced an unbreakable encryption algorithm for DES under pressure from the US National Security Agency.

A spokesman for IBM said: "In 1978, a US Senate select sub-committee on intelligence publicly issued a summary of a classified study stating that the NSA did not tamper with the design of IBM's algorithm in any way.

"IBM believes that the DES algorithm is adequate for all commercial purposes for which it is intended. To the best of our knowledge, no one has discovered any mathematical weakness in the DES algorithm."

He added: "Nor has anyone demonstrated any technically or economically feasible means to discover a DES key by exhaustion, that is by trying all possible key combinations."

NEWS BRIEF

Prestel worldwide sales deal

OVERSEAS marketing arrangements for Prestel have been streamlined following a deal with GEC to market the viewdata service software world-wide.

Under the agreement, future enhancements to the UK Prestel public service will automatically become available to overseas purchasers through GEC.

Storage unit

THE Hobbit, a mini-cassette storage unit that acts like a floppy disc for Nascom systems, has been put on the market by Carmarthen-based Ikon Computer Products. Over 51 Kbytes can be stored on each side of the tape in up to 69 files. Data is transferred at 600 bytes per second via one P10 port. The unboxed system costs £99.

Pilot service

COUNCIL for Educational Technology has launched a pilot telesoftware service on its Prestel database. Software to load the telesoftware automatically is to be available commercially early this year from Research Machines for its RML380Z, which is widely used in schools, after trials with 25 schools and colleges using the pilot service.

WP launch

S.WORD, a word processing system which incorporates full screen editing with arithmetic capability, has been lauched by Wootton, Jeffreys and Partners. The system runs on Prime and DEC machines, and is available either as a complete turnkey system, or as a fully supported software package.

Typelink release

A NEW release of the Typelink processing system has been announced by CTL, part of the Information Technology Ltd group. Licensed at £3,800 for the complete system, which runs on the CTL range of Series 8000 computers, Typelink offers the facility to interface automatically with the Reporter system, which enables selected information to be inserted into documents being processed.

Théry tipped to head CII-Honeywell Bull

by Jack Gee

GERARD THERY, former head of France's telecommunications authority, is strongly tipped to become chairman of CII-Honeywell Bull following nationalisation by the French parliament, industrial sources said in Paris.

Théry would succeed Jean-Pierre Brulé, whose job has been vacant since he was dismissed last summer by CII-HB's majority shareholder Saint Gobain Pont-a-Mousson, a glass-and-fibres conglomerate which has a 40 per cent stake in Olivetti.

Ironically, 48-year-old Théry was fired from his post as director-general of French Telecom soon after the Socialist government took over because he was regarded as a supporter of defeated ex-President Valéry Giscard d'Estaing.

Giscard appointed him to his telecom post in 1974. Théry earned an excellent reputation as the man who pushed through an ambitious programme to double the number of telephone lines in France.

The new government criticised Théry for upsetting public opinion by thrusting a pilot electronic telephone directory viewdata scheme on Brittany, an area chosen for a test run which has been resented by many local users. But now he is regarded as a top-rate manager whose talents must be used.

Théry was in America last month brushing up his English – and making contacts with the electronics and computer industry there.

Publishing service goes into production

by Donald Kennett

THE first productive work is now being done on the experimental Blend service based at Birmingham University, which is intended to enable electronic media to be evaluated for use in the publication of scientific research papers; which must be refereed.

Sixteen papers have been put into the system by the community of 60 researchers at 25 sites involved in the experiment. They will now be refereed using procedures similar to those used with papers submitted to conventional scientific journals, but the referees will be able to communicate with each other or with authors via Blend (Birmingham and Loughborough Electronic Network Development).

Conventional journals of research papers typically take 18 months to complete the publishing cycle, with refereeing and selection taking five months and preparation for printing a further seven. Blend aims to streamline the whole process by investigating alternative methods over the next two years.

Work on the project began last January, funded by a £256,000 grant from the British Library Research and Development Department, with the installation of the Notepad teleconferencing software from California-based Infomedia on a Digital Equipment DEC-20 at Birmingham University.

Extensive modification was then carried out to the electronic publishing section of the package.

Thomson-CSF hires 2,000 young engineers

by Jack Gee

FRANCE'S Thomson-CSF, which is scheduled for nationalisation, is hiring 2,000 young engineers and technicians early this year to cope with orders for computer and electronic equipment.

Chairman Jean-Pierre Bouyssonnie said: "Orders might not follow right away. But since it takes time to train these youngsters we have to be ready for when a new boom occurs.

"Computer and electronic technology is developing so fast that we cannot afford to waste time. We shall also be competing on the labour market with other companies.

"I expect 1982 will be a year to pause for our company after the stable period in 1981 and the amazing rate of growth during the three previous years. But the effects of new orders will make themselves felt in 1983."

Many of the newly recruited engineers will be needed to fulfil a £180 million order for computerised control equipment which the Soviet Union has placed with Thomson-CSF for the 3,000-mile Siberia-Europe pipeline.

The French government has now given the go-ahead to Thomson-CSF after ordering it to postpone final agreement with the Russians in October.

Insurance private network

by Donald Kennett

ONE of the UK's largest private telephone networks has been brought into operation by the Commercial Union Insurance group.

By the end of 1982 the network is to have 26 British Telecom and IBM stored program controlled ... meet 80 area offices and 100 smaller offices in the UK.

The first exchange in the network, an IBM 3750 at head office in London, was installed in 1980. It was followed by six of the smaller 1750 version during last year in cities including Manchester, Glasgow and Bristol and a seventh is to be installed in Croydon in the ...

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SOFTWARE BRIEF

Pansophic and BOC team up

US supplier of system aids Pansophic has teamed up with one of the largest bureaux in the country, BOC Datasolve, of Sunbury-on-Thames, in an agreement which makes two of Pansophic's best known products, Panvalet and Easytrieve, available to Datasolve clients.

The Panvalet library storage system and the Easytrieve information retrieval and data management system are linked with TS03, Datasolve's version of the IBM program development tool SPF.

For investors

AN investment workstation for investors has been launched by US software publisher Lifeboat Associates. Lifeboat describes the product as a combination of communications and management tools which creates an "electronic portfolio". It is linked into the Dow Jones News and Information Retrieval Service so that the user's information stocks, bonds, options, stock splits and portfolio management can be updated automatically.

'Total package'

ONE of the most successful financial systems in the market has taken another step towards becoming what its vendors, RTZ Computer Systems, describe as a "total fixed asset management package". The Fascia system can now handle revisions on the values of fixed assets so that users can alter one factor in a class of assets and get an update on how the change affects current cost accounting figures.

Naked Pascal

A "SUPERSET" of the new proposed standard for the Pascal language has been introduced by Computer Automation for use on its Naked Minis. Computer Automation chose Pascal for the advantages it can offer in programming discipline. It runs under the OS4 and real time RTX operating systems.

WP program

A WORD processing program which can cope with text and data convergence is being launched by Microtrend of Harrogate. The Lexicom package can screen documents up to 200 characters wide, and can also cope with automatic horizontal scrolling, numeric tabbing and decimal point alignment. It can also convert Lexicom files to standard CP/M text file format.

DBMS for DEC

A NEW database management system for users of the popular Digital Equipment PDP-11 machine is being introduced into the UK by Pioneer Computer Systems, a software house based in Northampton. The DBMS, called User-11, is claimed to save 75% on existing programmer time in program maintenance and system development.

SOFTWARE FILE — by Claire Gooding

IBM's short-cut for DP departments gives bureaux a new image

A BUREAU service doesn't spring to mind as the most modern, go-ahead and flexible tool available to the up-to-date DP person.

But IBM is offering its VSPC (Virtual Storage Personal Computing) service as a by-pass to busy DP departments which know exactly what they want but do not have the capacity for it. Or at the other end of the scale, to first-time users who are fairly sure of what they think they might want, but will probably want it painted another colour once they have it up and running.

The whole idea of VSPC is to make available a variety of skills and resources which a user would not normally have on call. Using VSPC, a "prototype" system can be developed and subsequently evolved into what is actually required instead of pouring effort into a one-off project which turns out to be not quite right.

The idea is catching on to the degree that other competitors in the IBM bureau field are beginning to offer similar services as part of the new image of bureau services.

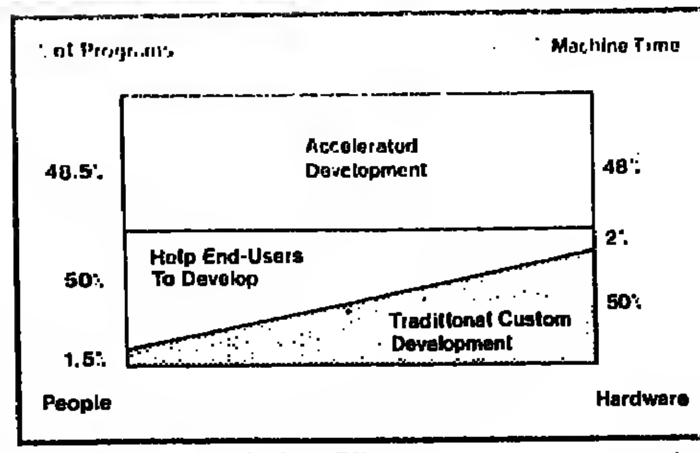
The service will run alongside existing in-house DP departments and aims to relieve load, by-pass the tailback of applications waiting to be developed, and get a system up and running without having to wait to amend designs.

Jeremy Rivers, the man behind the VSPC service run from IBM's Rayners Lane centre in North London, explained where VSPC fits into the DP scheme.

"We can go to DP departments and improve their productivity problems, be they due to lack of capacity, lack of facilities, staff, software, or whatever. Or we can go straight to the end-user and offer interim or even continuing solutions."

The reason behind the boom in the use of bureau services such as VSPC is the enormous increase in end-user demand. As more people expect to get more direct use of their company machine, DP resources become hopelessly overloaded.

IBM sees the simple solution as giving the end-user tools which will enable him to do the job himself without bothering – or even using the resources of – the in-house computing department.



IBM's view of the use of in-house DP resources.

The solution came partly from IBM's own in-house experience, and from research carried out in 1977. The interesting results are reproduced in the graph. They show that while the amount of everyday "bread and butter" processing has remained constant in terms of the machine time and percentage of programs it occupies, an increasing amount of time has been given over to the execution of the "one-off" type of job demanded by end-users who need information and data.

The bureau service can also be used to set up complex projects at high speed. One user, Mot... Foods, needed a fast and sophisticated service in order to win a major contract with Express Dairies.

Deliveries to Express shops are now managed by a system of order processing which was written in six weeks, and has to cope with products at variable weights, orders which have to be prepared within 24 hours, and invoices sent with deliveries.

Unlikely start for software publisher

CHANCES are that if you need a microcomputer to run a business selling wood-burning stoves, then there are going to be thousands of people out there doing jobs from the mundane to the exotic, who could do with the same tool and similar (though never quite the same) software.

It is an unlikely beginning for a software publisher. Nevertheless one small company in Andover, a five-person team calling itself Tabs, started from just such a source and is now selling its set of 14 applications packages for business accounting through a network of dealers which is to expand from its present 300 to over 1,000 outlets in the next year.

The Tabs team got together to provide a low-cost business tool which would be flexible enough to adapt to a user's needs as they grew and changed. Out of the business run by Carol Poole selling wood-burning stoves from home came the money, the business acumen, and the awareness of business users' needs.

The step from that to an Apple dealership taken on by Carol and Terry Poole paved the way to a full-blown software publishing business. They got together a team which could supply the various skills needed.

The problem facing the team was to produce and market something robust enough to stand up in first-time user thrashing, which was also sophisticated enough to tailor to requirements with the minimum of effort.

The iogredients they chose (put together, incidentally, by a dyslexic mathematician) made a lot of sense: modular design, with each module integrated so that updating is automatic; user-defined parameters and the ability to run on a range of machines (the most popular including micros running CP/M).

The package is compressed and protected by the use of the DTL Basic compiler which also speeds up the running of the programs by putting Basic into compiled code. They are also designed with upgrading to multi-user systems in mind.

TERRY and CAROL POOLE: From stoves to systems.

MicroFinesse US boost

THE financial modelling tool MicroFinesse is about to join the host of products out to win the rapidly growing US market for such applications on microcomputers. US publisher Osborne McGraw-Hill has chosen the product to spearhead its push into software distribution and has signed an agreement with the P-E Consulting Group, which is already supplying the product through Apple dealers in the UK.

Osborne McGraw-Hill is already involved with the Osborne microcomputer, which looks set to take a large slice of the micro market.

Wang VS users to get Total option

MINI manufacturer Wang is taking another step towards giving its users a choice of software to run its VS machines. By an agreement with Cincom, supplier of the Total database, the entire Wang VS range will run Total.

The Wang Total is due to arrive in mid-1982 with customer education and installation coming jointly from Wang and Cincom.

Although Wang has won an enviable reputation for the efficiency of its hardware, it had lagged behind in the supply of systems and applications. Its move to bring outside software suppliers into its business has emerged over the last year or so, with Wang co-operating with suppliers like Cincom and The Office Manager, who can supply solutions far more quickly than Wang's own research department.

However, Wang's senior vice-president, Frederick Wang, confirmed that despite opening d... to Cincom in the introduction of Total for Wang machines, w... continued on Wang's own DB... This is designed to ha... structured and unstructured d... electronic filing, voice, integra... with graphics, and textual f... for word processing.

Two tools for System 34

TWO programmer productivity tools for IBM System 34 users have been released by Lon...-based Computer Resources. The first will automatically generate and update documentation for RPG-II programs, while the other is a system file maintenance program generator.

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Computer Weekly was the first general computer journal to give software its own space when Software File was introduced for weekly news reports. Now the time has come to expand the coverage further.

Edited by our Software Editor Claire Gooding, Software Month will devote its whole coverage to one subject each month. The topics are listed below.

But included each month will be a news round-up, highlighting important events of the past month, and a column by consultant David Ferris on the increasingly important business side of software and the companies which market it.

PROGRAMME FOR 1982

January 14: ICL systems software
February 25: Annual software review
March 18: Networking software
April 22: Database
May 13: Financial and project planning
June 10: DEC systems
July 15: Payroll packages
August 12: Integrated Office software
September 9: Program productivity – program generators and high-level languages
October 7: Word processing
November 4: City software
December 2: CAD/CAM and scientific software
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29-31 SOFTWARE PRINCIPLES IN MANAGEMENT LONDON
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MICRO NEWS

by Robert Parry

Happy Christmas for the high street personal system market

DESPITE the general air of gloom that surrounded Britain's high street retailers this Christmas, business boomed for those selling personal computers.

W. H. Smith, the retail stationery chain selling Sinclair's ZX81, reported sales of between 4,500 and 5,000 machines in a week in December, compared to the 2,000 a week it sold when the £70 machine was introduced in the autumn.

"We obviously do not expect this to continue in the New Year," said John Rowland, Smith's marketing development manager, "as we are very biased towards Christmas."

Rowland commented that most customers were between the ages of 35 and 40 and said they were buying the micros as presents – though not always for other people. "We have sold quite a lot to IBM executives in the Havant shop," he added.

Tandy, with 270 outlets for its TRS-80 systems around the UK, also had a good December. "Sales showed a 50% to 60% increase over the previous month," said Mike Ayres, Tandy's microcomputer marketing manager.

"At the low end, people are now buying computers as executive presents, expensive personal gifts." The high end of the market also did well.

Other manufacturers saw good sales at the lower end of the scale. Commodore was shipping 3,000 units a week of its Vic-20, the £190 home computer, from Braunschweig in West Germany, aiming to clear the backlog of 15,000 units caused by technical difficulties.

According to John Baxter, marketing manager for the machine, Commodore expects this rate of sale to increase, looking for sales of 100,000 units in the first half of this year.

Apple Computers did not see much of a bulge in sales in the run up to Christmas. It feels it caters for serious users, rather than for the "programmable calculator market" which traditionally swells before Christmas and dies away in January, and that any increase in December was part of a steady upward trend.

Other high street dealers reinforced the view that the sales bulge was concentrated at the cheaper end of the market. Laskys said it was selling lots of Sharp and Atari kit.

Currys Micro-C reported good sales of personal computers as Christmas gifts, contributing to the 350% increase in business in the last quarter of 1981 compared with the same quarter of 1980.

Optical computer on way

A CIRCUIT element that could lead to the production of an optical computer working at speeds considerably greater than those attainable in conventional electronic computers has been developed at Japan's Tohoku University.

The device, developed at the university's Research Institute of Electrical Communication by a team led by Fumio Inaba, is called an integrated optical bistable laser diode and can assume and maintain two kinds of stable conditions when a light signal is put into it.

Using these two conditions as the binary one and zero, the device can be used as an optical memory element or an optical switch element.

Such basic elements of an optical computer have proved difficult to integrate on to a substrate. Inaba's team succeeded in implanting either a semiconductor laser or a light emitting diode face-to-face with a light detecting photodiode on a chip, and connected the components electrically.

Zilog and GenRad in support agreement

A DEAL between chip manufacturer Zilog and GenRad, one of the leading makers of semiconductor test equipment, will provide Zilog microprocessors with development support "unmatched in the industry" according to Martin Cohen, Zilog's vice-president for component sales and marketing.

It will give two sources of hardware and software development tools for Zilog products as they come on to the market.

Independent manufacturers of "universal" development systems rarely offer development tools until some time after new devices become available.

Advanced design and specification data on all Zilog microprocessor products in development is to be made available to the Futuredata development systems division of GenRad.

In return, Futuredata development systems and emulators will be interfaced to Zilog's Z-Lab 8000 development system which will serve as a host processor.

Support products for Zilog devices already provided by Futuredata include emulators for the Z80A and Z8002 processors. Products announced in conjunction with the agreement include a Pascal compiler for the Z8000 processor family, a Z80B emulator and a cross-assembler for the Z8.

Ship-shape and Southampton fashion, simulating sea conditions with scale model ships and an Apple.

Ship design is quicker by micro

DESIGNING a ship's hull that will be stable in all weathers has traditionally been a craft founded on long experience and many hours at the drawing board. But Philip Wilson, lecturer in ship science at Southampton University, has found a quicker route by using an Apple II microcomputer running programs in CP/M-based Fortran.

"What used to take us all day on the mainframe eight years ago can be run on the micro in little over an hour," he says.

Programs in the suite include one to analyse data on ships' motion and wave patterns from a 20,000 cubic foot towing tank which simulates sea conditions with scale models.

The system is used in the university for all sorts of hull design.

An Apple graphics tablet helps in modelling, allowing hull parameters to be drawn and stored for future use.

Expansion board transforms the Commodore Vic into 32K system

THE Vic-20, Commodore's low-price home computer, can now be expanded to a 32K system using an expansion board from Caernarvon-based Arfon Microelectronics.

The board effectively repeats the Vic's expansion port, giving sockets for up to seven cartridges providing extra memory and functions such as disc control and an RS232 link. Four of the slots can be used for memory expansion, the number needed depending on the size of cartridge used.

Cartridges with 3K, 8K or 16K of RAM are available, allowing expansion of the system from the 5K standard to 32K, about 28K of which is usable.

The 3K and 8K RAM cartridges contain EPROM sockets, giving 4K and 8K of ROM respectively. The ROM packs, according to Arfon, will offer a range of "upmarket software" either from Arfon or from external sources on a royalty basis.

The expansion board is housed in an aluminium shell, enclosing a new power supply and the modulator. Cassette port and disc port are still usable, as are the games paddles. The unit's rigid base makes the system easily portable.

The unit is Commodore approved, and was welcomed by John Baxter, Commodore's marketing manager for the Vic in the UK.

There is no expansion unit available from Commodore in the UK yet. A Commodore product was evaluated, but did not meet with Baxter's approval. He said the main problem was the lack of support for the connector between the Vic and the expansion board.

Both Commodore and Arfon are planning further extensions for the Vic. Baxter said that in early 1982 Commodore would be releasing a UK-developed add-on board, about the size of the 3K RAM pack, giving a 40-character line rather than the standard 22.

Arfon's plans include a cheap printer.

Japan out in front

AMERICAN personal computer manufacturers are losing out in sales to Japan, a market they dominated until two years ago.

According to the Electronic Industries Association of Japan, shipments of personal computers in Japan reached 110,000 units in 1980.

Nearly 60% of these came from the three top manufacturers, NEC, Sharp and Hitachi.

The combined total of the three top US companies, Apple, Tandy and Commodore, is estimated at 20,000 units for 1980 – less than 20% of the market. In 1979, the three US companies had between 80% and 90%.

COMPANY NEWS

Floating Point buoyant with sales up 37%

by Boris Sedaces

FLOATING Point Systems, a leading manufacturer of attached array processors, has announced record sales for its fiscal year ended October 31, 1981, up 37% over the previous year from \$42.4 million to \$57.9 million.

Net earnings were 50% up on 1980 at \$6.35 million or \$.81 per share before an extraordinary item of \$4.24 million providing a total increase of 69%.

During the fourth quarter, the company received a revised delivery schedule for the supply of Model AP120B array processors to General Electric Medical Systems, and currently has unfilled purchase orders of about \$28.8 million.

Steve Markham, UK and Northern European sales manager for FPS, says that his company is selling array processors to GE Medical at the rate of 200 a year.

"We will now be selling the FPS-100 direct to end-users, and our UK target for 1982 alone for all products is 30 to 40 systems," he said.

CW SHARES TABLE

Date 16/12/81 Index: 94.16 Change −1.85
Date 30/12/81 Index: 95.48 Change +1.33

1981 High (pence)	1981 Low (pence)	London Stock Exchange Stock	Price (pence)	C'nge
153	103	A Comp Tech. (25p)	145	−8
164	102	BOC Int. (25p)	162	+3
25½	15	B Bev Kent (25p)	27½	+7½
102	69	Chubb (20p)	105	+16
70	37	Cole (R H) (25p)	46	+6
316½	172½	Comp & Sys (20p)	233	−8
787	610	De La Rue (25p)	673	+13
296	168	Extel (25p)	236	+2
628	423	Ferranti (50p)	628	+17
824	568	GEC (25p)	674	+48
87	37	ICL (25p)	44	6
78	37	Kalamazoo (10p)	41	+3
363	193	Kode Int (25p)	223	+8
233	188	Memec (10p)	221	+8
116	68	Muirhead (25p)	112	−2
285	253	N'mkt ('81) (£0.05)	263	−2
£33	£27½	Norsk Data	£31½	−£1½
410	265	Office & Elect (25p)	300	–
488	283	Philips Lamp (F10)	424	−12
395	258	Plessey (50p)	363	+30
235	128	Quest Auto (10p)	126	–
473	285	Racal Elect (25p)	433	+18
206	110	Rediffusion (25p)	178	−11
500	208	Thorn-EMI (25p)	458	+7
105	85	Utd C&T (50p)	85	–
		OTHER MARKETS*		
738	85	Bus Comp (10p)	95	−7
728	312½	Comp Serv (£1)	567	–
130	78	Consult (C&F) (10p)	60	–
249	128	NMW (£1)	131	−8
60	44	Rolfe & Nolan (10p)	50	–
220	110	ScanData (10p)	110	−8
273	160	Star Comp (10p)	190	+5
109	95	Trident Comp (10p)	108	+1
103	70	Zygal Dyn (5p)	68	+5
$		US Stocks	$	
44⅛	24¾	Amdahl	29	+1¼

1981 High ($)	1981 Low ($)	US Stock	Price ($)	C'nge
33	15½	Apple Inc	71	+2
31¾	23⅜	Auto Data Pro	25½	−½
55⅝	26¾	Burroughs	34	½
55⅝	24	Commodore	47¼	¼
16⅜	9½	Comp Auto	10¼	¼
23⅛	11¾	Comp Sciences	13	+¼
18	13½	Comshare	15½	−1⅛
42	30⅛	Control Data	34½	−4
44½	23¾	Cray Research	38½	1¼
68⅛	43¼	Data General	63¾	−3½
65¼	41	Datapoint	60½	−2⅛
44⅛	18	Dataproducts	20½	2¼
112¾	81½	Digital Equip	85	3½
29⅛	17½	Elec Data Sys	24	⅛
15½	8	Gen Automation	6	
68	36¼	Harris	39	⅜
62⅛	39	Hewlett-Packard	39	2
105¾	69¼	Honeywell	63½	−1¼
41½	22½	Intel	22½	−1
67½	49	IBM	56	+1¼
80	50	Litton Ind	56½	+⅛
27½	11½	MDS (Mohawk D)	14½	−1¼
35	18¼	MSA (Mngmnt Sci)	23½	¾
17⅛	11	Mngmnt Assist	11½	½
14	8	Memorex		
21⅛	7	Modular	9	+¾
69½	56½	Motorola	66½	−8½
36¼	18⅛	National Semi	18½	1
73	30½	NCR	43½	+1¾
32⅛	21¾	Perkin Elmer	28½	1
48¼	18¼	Prime	23¾	+⅛
52¾	35½	Raytheon	37	−3⅛
34	20¼	Signal	28½	1
62⅛	30	Sperry Comp	34¾	−1¼
38¼	18¼	Storage Tech	24½	−3
34½	28¼	Tandem	27½	−⅛
38¼	20⅛	Tandy	32⅜	+1½
121⅞	78¼	Texas Inst	80¼	½
54⅞	24	Tymshare	28¼	¾
44⅝	28¼	Wang Lab B	32¼	1¼
14¼	7	Wyly	8	⅛

The table shows the closing prices in London on Thursday and in America on Wednesday. The share index is based on the prices of the UK companies in the table. Highs and Lows have been adjusted where necessary.
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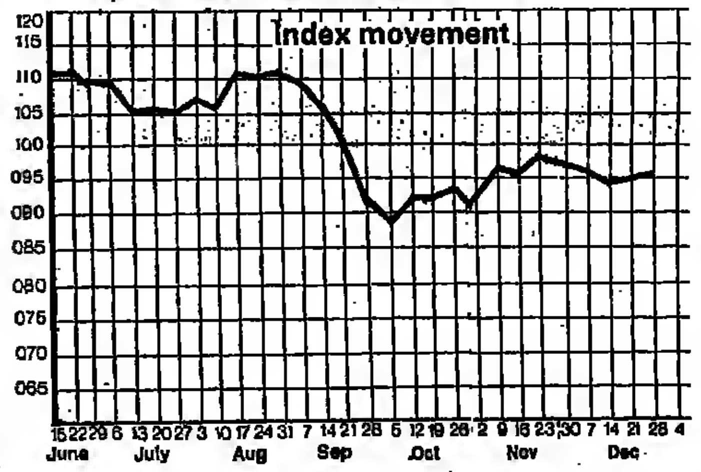

Software the key to recovery – Wilmot

WILMOT . . . Danger of "getting stuck in your own technology".

by David Craver

RECESSION or not, ICL management thinks that the steps taken to rationalise the company's operations will turn it into a viable concern. And the future growth of ICL will be led by software, not hardware, according to managing director Robb Wilmot.

On the day the company announced a net loss of £133.1 million, no immediate forecast of profits, a one-for-one rights issue, and the prospect of a further dilution in shareholders' stake in the company, ICL also said it was discussing the sale of its West Gorton, Manchester chip factory to Fujitsu.

That step is in line with the strategy the new ICL chiefs have been pursuing, which is to rid itself of capital-soaking manufacturing facilities to enable it to move more quickly with changing demands.

Wilmot confirms that ICL is not likely to make future investment in factories. He says it would cost £20 to £30 million a year to keep a major "state of the art" chip factory like West Gorton running, and with that "you are stuck into your own technology".

Fujitsu will re-equip the plant, probably with CMOS technology, and make it its first European design centre. It will support both ICL and other companies in Western Europe, and ICL believes the first development at the centre will be for ICL's distributed mainframe, DM/1.

Wilmot reckons ICL is spending £25 million a year on software, and he says the demise of Dataskil, which concentrated much of its effort on bespoke software, represents a major change. He estimates that two-thirds of total software resources are now going into standard applications.

Significantly, despite the dismal accounts for the year ended September 30, software revenues jumped 43%. In making a "networking product line the heart of our strategy", chairman Christopher Laidlaw said ICL would continue to "rationalise and fortify" its software.

The lynchpin of ICL's restructuring has been its reduction of manpower, which has taken it from 33,000 employees a year ago this September to 25,000 at the moment and a projected 23,000 early in 1982.

But the cost of redundancies to ICL has had its short-term tradeoff. Of the £133.1 million loss, £78.1 million is attributable to the rationalisation programme, and two-thirds of that, or some £55 million, is employee related.

But while employment costs were 49% of revenue in 1981, that figure should be closer to the industry norm of 40% next year, and Laidlaw reiterated that there should be no more company-wide redundancies.

While the rationalisation costs are included in the 1981 accounts, thus making a clean slate for 1982, redundancy costs which have not yet been paid out will increase the borrowing requirement next year. Borrowings decreased from £237.7 million in June 1981 to £164.4 million at the end of September.

But the effect of borrowings is clear. With the increase of interest charges last year, a small trading profit of £0.4 million in the second half was turned into a loss of £15.9 million at the pre-tax level, according to Laidlaw. That compared with a pre-tax loss of £33.9 million in the first half, before extraordinary items.

Laidlaw maintains that ICL is "still relatively undercapitalised", and that even after the rights issue, "further steps may be required before an appropriate level of shareholders' funds is established".

He adds, however, that ICL has "turned the corner".

Another bad year ahead – CII-HB

by Jack Gee

CII-HONEYWELL BULL, the French computer firm, registered "very heavy losses" in 1981 and must look forward to another bad year in 1982, Roger Fauroux, chairman of its holding company Machines Bull, and of the big Saint Gobain Pont-a-Mousson conglomerate which owns both companies, told a shareholders' meeting in Paris.

Faurox said: "Over the past year orders shrank in spectacular style, particularly during the first six months. The result was that stocks grew on an excessive scale.

"This phenomenon explains in large measure the financial slide which was far beyond anything expected."

The Saint Gobain and Bull chairman added: "CII-Honeywell Bull's long and medium-term debts rose from 1,481 million francs (£148 million) in 1979 to 2,309 million francs (£230 million) at the end of 1981."

Debt servicing costs, which represented 3.6 per cent in 1979 and 5.4 per cent in 1980 climbed to above 8 per cent in 1981.

Faucoux said: "CII-HB is at present trying to overcome its internal problems and improve its organisation. Orders have revived at a better rate over the past few months. But they are still not sufficient.

"We must expect very heavy losses for 1981 and probably also for 1982. But the company holds trump cards for the future, thanks to its position in Europe and its technology."

Fauroux said CII-Honeywell Bull's development plans would have to take into account the change in its relations with its American partner Honeywell, following the French State's take over.

The chairman added: "The nationalisation of Saint Gobain gives Honeywell the possibility to withdraw its capital from CII-HB selling its stake for a cash payment. Negotiations are under way, but it is still too soon to predict their outcome.

"We hope that CII-HB and Honeywell can continue to work together in an effective manner."

Motorola buys Four-Phase

by David Craver

US semiconductor giant Motorola has acquired Four-Phase in a share exchange.

Four-Phase, which manufactures distributed computer and office automation systems, is headquartered in Cupertino, California. Last year it had profits of \$5.5 million on sales of \$197.2 million.

Following the share exchange, which is subject to approval by the directors and Four-Phase shareholders, Four-Phase would continue under existing management.

The share exchange will provide each Four-Phase shareholder with \$45 worth of Motorola stock for each Four-Phase share. The ratio will be between .634 and .763 Motorola shares per Four-Phase share.

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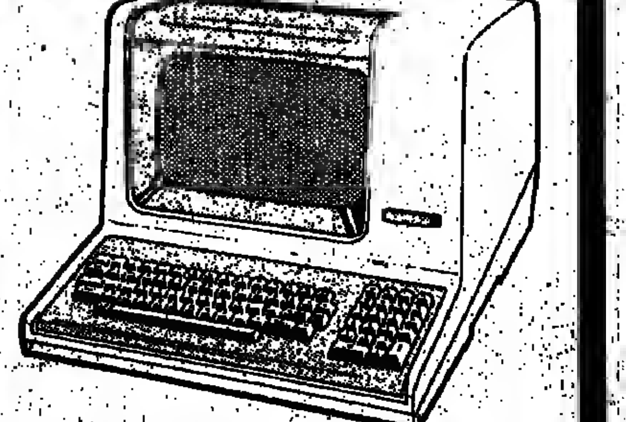

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SYSTEMS THOUGHTS

Disc drive access time fails to keep pace with increased capacity

SOME months ago I wrote about the role of backing or secondary storage in modern DP installations, emphasising the advantages and drawbacks of the IBM "All Data Online" campaign. In the ordinary way that would have closed the subject for some time. However, several events since then have led me to take up the theme of secondary storage again.

The first of these was the series of problems experienced by IBM in the manufacture of its 3370, 3375 and 3380 discs. In late October there were reports of hold-ups in the manufacture and delivery of 3370 and 3375 disc drives in Europe. By early November, however, shipments of these drives had been re-scheduled in Europe; shipments in the US were not affected.

The first 3380 drives were delivered in the US in September. However, the A4F and B4F models – those offering some zero-seek fixed-head capacity – have been de-committed, leaving those users who require this form of storage to turn back to the 3350, or even the 3340 fixed-head models. This change in plan has been counterbalanced by the announcement of two new models of the 3880 control unit, which are likely to offer superior facilities in comparison with the A4F and B4F.

The second change was the appearance of STC's VSS (Virtual Storage System), and the availability of Masstor's SVSS (Shared VSS). These systems provide file management facilities that compete with IBM's HSM, while offering other facilities that compete with IBM's HSM, while offering other facilities as well. VSS includes large semiconductor cache storage between the CPU and secondary storage, while SVSS potentially offers the ability to link different host CPUs to a single secondary storage hierarchy. I say potentially, because it appears that SVSS is as yet only able to handle a limited number of host systems (not including IBM) although in principle this would be easy to arrange by supplying the necessary software.

The third change – and perhaps I should take this more as a warning! – was the information that I and colleagues queried, while running a consultancy briefing. Although many of the participants found the hardware review that we provided useful, their main interest was in three areas:

1. The impact of Intermediate RAM cache storage on secondary data handling. In particular there was a great deal of interest in the 3380 models 11 and 13, and in STC's VSS.

2. Software tools, controls and measurements, with emphasis on measurements made in large installations.

3. Data management software, particularly anything that provided an alternative to HSM. This did not imply lack of confidence in HSM – only two users had substantial experience with it – but rather a wish to consider it as one option of several.

I shall only discuss here the first of these points. In my earlier comments on secondary storage (CW, June 11) I mentioned the Memorex disc cache; this has subsequently been withdrawn, although the experience gained from it is likely to be used by Memorex in the design of future devices. Meanwhile, IBM has introduced the 3880-11, described as a paging subsystem, and the 3880-13, known as an application data subsystem.

The 3880-11 uses an eight Mbyte cache to front-end 3350 discs, and is intended to provide a paging or swapping facility that operates at up to ten times the speed of disc. The paging storage director will match speeds with a number of IBM processors, so that 370 models 158 and 168 can be used with it. In addition, the dedication to 3350s will allow these devices to be used gainfully for paging, even when applications have been transferred to newer discs.

The 3880-13 provides a 4 or 8 Mbyte cache, and will operate with 3380 discs. The advantages will include more rapid access to data in sequential or skip-sequential applications, and in some indexed environments. The ability to hold large quantities of data in cache should markedly reduce the problems of contention, with its attendant need for manual tuning.

STC has provided more comprehensive facilities in its virtual storage systems (VSS). The VSS system is located between the host CPU and its I/O devices. The host CPU connects to a virtual control processor (VCP), which is a Magnuson M80/40 mainframe. This VCP maps requests for data into the main memory of the host computer, and also controls data transfer and data compression, which is said to reduce the space required for data storage by 25%.

VSS also provides for the control of storage management, backups/recovery and system utilities, and is claimed to offer a dynamic recovery facility that is transparent to the user. Although this is a great deal more than a cache system, the "typical" configuration might consist of two 4 Mbyte VCPs, which would control a mixture of discs and tapes – including what is described as "intelligent" migration of data from disc to tape.

These developments are aimed at solving one of the big problems that has emerged in the use of disc over the last decade. This is that disc *capacity* has increased roughly six-fold in that time, while *average access time* (including head movement time) has only improved by about 60%. Of course, much more data is available with no head movement, or only minimal movement, but in cases where contention is a problem this means that modern disc drives are less than twice as fast as those of a decade ago. Cache storage is the best way to combat this problem, and I expect to see many more variants of control units, data handling systems or semiconductor "discs" becoming available in the next year or so.

Owen Hanson

Owen Hanson is head of the Centre for Business Systems Analysis at the City University.

FOCUS

Thinking big for the Eighties

WHETHER measured in terms of CPU dimensions or quantities of terminals, size in the computer industry is all-important. With only moderate user encouragement, central mainframes are breeding faster than electricity board generators and minis are breeding into supermini size. Even micros are breeding communication networks.

The "size is great" movement is clearly in the forefront of government policies, as well as in the Japanese computer industry. At the same time that our industrious Minister for Information Technology Kenneth Baker was telling the CSA computer automation group how important is size in world computing standards, Yukimaro Kawatani, general manager of Fujitsu was informing his London audience that as yet Japan was not quite ready to take over the world computer market.

In any case, the prospect for computing is so enormous, Kawatani stated, that there is room for everyone – not just IBM, not just the six major Japanese computer manufacturers, but all the computer companies that are now in operation, and perhaps more.

Fujitsu certainly believes that small is not always beautiful. Not only has it released details of the world's "largest and fastest" mainframe, the Facom M-382, but the company is establishing links with Siemens and Amdahl.

Meanwhile, the Minister for Information Technology was encouraging the UK computer industry to think big and combine forces, pool resources and show a marketing initiative by working together.

If UK industry is to improve on its lamentably small share of its home and overseas markets in office automation, he said, then it must introduce competition and attractive products in advance of more established competition.

The Minister then committed the far from sizeable sum of £ million of government funds to the development of products aimed at the automated office.

Certainly the Minister has considerable scope for his plans. Although he is having some success in overseeing the transformation of ICL into Multinational Computers Ltd, the industry seems to be resisting his "size for fame and fortune" movement. The overriding trend is the continued shift towards microcomputer solutions, with increased prominence being given to smaller systems by the acknowledged leaders in large systems.

Noted names such as IBM and Digital Equipment, both skilled in producing what the customer wants, have revealed small personal business systems, while ICL has taken the plunge in its link with Rair. Philips similarly is not keen to be left out. At a recent presentation, the new Philips word processing terminal was carried in on a plate – rather more than can be said for its market.

Even Barclays Bank has joined the small computing league and introduced 32 Apple computers around its branch networks, initially to provide customers with free budgeting and cash flow forecasting services. Just who will marshall the resultant flow of potential users has not been made clear, but with sundry local club enthusiasts and home hobbyists keen to make use of free micro resources, banking crowd control routines will have to be established. Given sufficient co-operation and training, Barclays Bank customers could soon be required to enter their own transaction data and run-out their own statements.

Alan Williams

10 YEARS AGO

From Computer Weekly of January 6, 1972

ICL's proposal to guarantee the purchase of £2 million worth of Key-Edit systems looked certain to save Consolidated Computer from liquidation . . . To cope with data processing needs International Publishing Corp, publisher of Computer Weekly, installed an IBM 370/155 to replace its 360/50 . . . The first IBM 370/145 to be installed in the UK was used by the South Wales Electricity Board for work on detailed studies of power distribution systems and for engineering design work . . . RCA's withdrawal from the general purpose computer business was estimated to have produced a loss of about $155 million . . . A Cornmarket Computer Staff Salary Survey revealed that male programmers were earning 13.9% more than their female counterparts.

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DOWNTIME

We'll never change partners again

I RECENTLY exposed the inner meaning of the modern dance, commissioned by the South-East Information Technology Year Committee from the London School of Contemporary Dance. Now comes Computerdance, which is designed to calculate suitable pairings on the dance floor according to attributes possessed and specified by each partner.

A company called Mismatch brings us this constructive piece of technology from the campuses of California where, as a wag once said, compatibility is achieved by swallowing a common pill.

Compatibility is certainly what Computadance is all about. A high relationship building success is claimed – something which, it occurs to me, is true also of arranged marriages.

Sounds like the best thing Computerdance is that it gets people dancing and out of those dark corners where the shy will often loiter away half an evening. But this could be achieved by just picking numbers out of a hat, when there would be the added fun of not knowing whether your partner had the requested attributes of not – in other words, could be seven feet tall, a pet lover and a Social Democrat.

Like can after all repel like, and sometimes having what you like proves repulsive in the end.

Ironically, at Computerdance's UK premier, people got together without the machine's aid. Indeed, the participants had to be parted unwillingly in order to implement the computer's dictates.

Men are either more numerous or richer than women, so to balance numbers Computerdance costs £10 for women, but £15 for men.

Chad makes no comment.

Superwit

IN the Daily Express I find a report on seven of Britain's "superbosses".

Among the Lord Grades and Tiny Rowlands appeared my old workmate Robb Wilmot. Asked by the Express hacks for his definition of success, he quipped: "I guess in the end all it means is that we can all go out for a curry without feeling guilty."

Might I suggest that what he really meant was: "Success means being asked banal questions by the popular Press and having them print whatever facetious reply I make as if it were an eternal verity."

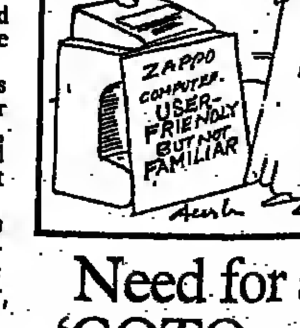
System reads all about it . . .

FRUSTRATIONS people feel when afflicted by delay in obtaining books from publishers can be summed up in one word "computers", writes a contributor to the Daily Telegraph's letters page.

This is indeed a change of emphasis. Computers have often been made scapegoats for delays, errors and mismarriages, just as they have been lauded as panaceas for these same ills, but to say they are synonymous with these ills stretches literary licence a little too far for my liking.

Computers have indeed been prominent in recent editions of the august Telegraph. There is a computer to combat bar fiddles, which can even detect watered drinks, and a computer to read all the world's serious newspapers.

This last astonishing machine belongs to Iris, the newly formed International Reporting Information Systems in which Edward Heath holds a £50,000 a year job. It will – and I quote from the text of the article – "listen, via satellite connections, to foreign language radio transmissions, and other things too complex for a family newspaper reporter."



Need for a 'GOTO . . . PLEASE'?

YOU have to be careful what you say to foreigners, not because they are more sensitive than we are, but because their sensitivities are different. What to us is maybe no worse than a laconic request for information may, to someone raised on different protocols, be a slap in the face.

This becomes a real problem with two cultures as different as the Western and the Arab, as authors of prompts for operating systems have discovered.

My correspondent in the Middle East reports that much offence has been caused there by prompts that neglect to call the person "sir", or "your Highness", as appropriate.

Of course one man's title may be another's insult – try calling a Scotsman "Paddy", for example.

Here lies the problem. How can a computer tell to whom it is speaking? The answer is, I think, to address everyone as "Lord". It's ambiguous, and as flattering as the hearer cares to believe.

Chad

Dog's life

I TRIED out a gobbledegook test on the unwitting owner of a hot-dog stall recently.

"A pair of your delectable canine comestibles, sir," I ordered.

"Dogs or burgers, mate?"

The reply pierced my soul.

A plug for British Leyland

BRITISH Leyland is short of kudos these days, so it is nice to see all the praise that has been heaped on the See-Why simulation system that models in pretty colours the flow of cars round assembly lines and beer around breweries.

Operational research boss Edward Fiddy is especially proud of how portable his system is, on its little Cromemco micro. "All you need," he breezily tells prospective users, "is a 13 amp socket!"

Imagine his chagrin when he turned up with the kit at one BL establishment and discovered that this go-ahead place only had the old round pin 15-amp sockets!

ComputerWeekly

Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS

Thursday, January 7, 1982

A doubtful sort of honour

IT must be a sobering experience to turn up for work one day to find oneself assigned to a major military project. For those programmers with the right pedigree in real time languages and who work for one of the four UK companies that have banded together to bid for Nato's early warning defence system (ACCS), this is a real possibility.

Software has become a vital part of all defence systems and there is now a class of programmers which has to face the responsibility, on a larger scale, that other professions like medicine and even engineering have always faced: the responsibility for life and death.

Perhaps even more sobering is the fact that the Nato system will probably be carried out in the Ada programming language. For some time there have been doubts whether the language should be used on crucial real time projects until it is tried and tested with the thoroughness of its predecessors.

It is some comfort that the project will probably take so long to get off the drawing board that Ada will be old hat by the time any programs actually need coding. And, as in any large project of this nature, quality control will play a vital part in ensuring as few mistakes as possible.

As for individual programmers, analysts and other skilled DP people, they have a choice as to whether or not they wish to work on defence projects. There will be some who are appalled by the thought of working on something like ACCS, others who are deeply committed to the idea behind Nato defence, and others who just see it as a chance for some exciting and challenging programming.

Significantly, the choice of actual hardware used in the ACCS project will be up to the successful software bidders.

Perhaps that is at least an improvement on having the amount and nature of the hardware dictated by the manufacturers of weaponry themselves, but for those who prefer to think of programming as a peaceful, intellectual and safe profession, it is a doubtful honour.

Hope for the jobless

THE announcement by Information Technology Minister Kenneth Baker to expand the network of information technology centres must be applauded. The government intention for these centres is to train unemployed 16 to 19-year-olds in the skills of electronics and computing and "basic information technology".

While the 30 centres to be opened by next year and the prospect for 100 or so after will have little short-term effect on the current unconscionable levels of youth unemployment, the appearance of these centres in the inner cities may serve as a focal point of hope for those who thought they had been left out of the technological revolution.

Baker has made clear that there will be a bias towards the inner cities. The experience at the Notting Dale centre, the model for the programme, has been spectacularly successful on a small scale. Forty black youths with a mere five Certificates of Secondary Education (CSE) between them have received training, and nearly 30 of them have found jobs in the microelectronics industry.

One hundred centres, multiplied by the 30-40 people that can be trained in each year, does not begin to solve any of the deep-rooted problems of the nation's flagging economy. But it does prove that given the right facilities and the proper motivation, the plight of the young in inner cities is not beyond redemption.

The need to open the centres can be seen in terms of the failure of traditional forms of education, which leaves so many without the necessary skills to get started in work. And while Baker's initiative may be a palliative rather than a cure, the computer industry must lend its full support to the scheme.

That support, in both cash and kind, might make Information Technology Year 1982 into more than an exercise in public relations.

1984 and all that . . .

THIS week's example of the strange things people say about computers was sent in by J. A. McCurdie of Deeside, Clwyd, who wins £5.

Mr Feldman's computer is reputed to be bigger than the CIA's. Only Mr Feldman understands it.

Daily Telegraph

LETTERS

What a trade show does not offer

ANNE LEEMING (Systems Thoughts, December 10), is being a little naive if she expects to get "several good demonstrations" of particular pieces of software at Compec, or any other computer exhibition.

Exhibitions are always crowded, noisy, and distracting; in addition, problems of voltage fluctuation, "static", or overloaded telephone systems are usually present. The salesmen are harassed, tired and nervy, trying to deal politely with the whole range of visitors, from complete novices ("How does it work, actually") to clever show off whizz-kids ("Is it compatible with the Canadian viewdata system?").

There is absolutely no way that a salesman can sit quietly for half an hour (let alone the two hours that you really need) with prospective clients, and give a considered, in-depth presentation. If he can, there is something very wrong with the exhibition!

The most you can expect is an exchange of basic information between the supplier and the prospective client, to indicate whether further investigation is worthwhile; if it is, a proper appointment can be made where the appropriate software can be demonstrated in peace and quiet.

Exhibitions have many useful roles. For the suppliers, they provide a means of getting seen and written about; for prospective purchasers, they provide a first step to understanding what is currently available; for consultants, they enable you to see if anything really new and exciting has arrived while you were not looking.

They do not, however, provide an opportunity for serious evaluation!

DELIA VENABLES
Microcomputer Advisory Service, Lewes, Sussex.

Employable graduates

IF Philip Virgo's comment on the product of universities being the "dross of second-rate institutions" is a correct report, may I extend an invitation for him to come to Brunel and meet our products? These are students, many of whom could have gone to Oxford or Cambridge had they so wished, but who have chosen to pursue a vocational course at a technological university.

On graduation, having already spent one-and-a-half years working with computers, they are readily employable. Indeed we receive numerous enquiries each year after all of that year's crop have found jobs. A few of our graduates even pursue research at what even Virgo would, I suspect, rate as first-class institutions.

From now on, however, the number though not the quality of our products will be reduced. Perhaps those in a position to influence government, as Virgo seems to be, should look carefully at what is actually happening to the country and spend less time projecting their prejudices.

Dr L. R. NEAL
Department of Computer Science
Brunel University.

Disabled man's search

I WONDER if your readers could help me in a search that has so far been fruitless.

I am severely physically disabled (typing this letter by means of a pneumatically controlled Possum typewriter) and can no longer properly pursue my favourite game, chess, simply because I cannot move pieces around a board. This means I cannot play through games or analyse moves on my own.

First and foremost, therefore, I need a device that will enable me to display a chessboard on a TV screen and make the moves via a touch-button keyboard, probably algebraic. Perhaps such a facility is available, but only as an element of one of the new chessplaying machines.

If so, could I still dictate both White and Black moves? Would it be available with the best recommended machines? Namely: Chess Champion Mark V; Executive Chess (both from Scisys Ltd); Fidelity Champion Sensory Chess Challenger; Mini Sensory Chess Challenger; Boris Diplomat.

Thus I could play through games from books, practise gambits, analyse and retrace steps, etc. I mention that because chess-playing machines such as Intelligent Chess that incorporate the use of a TV screen do not seem from the description on the brochure to allow one to override the competitive response from the computer, besides comprising a cassette facility that I could not operate and being costly (£279 from SciSys).

I am not against playing an electronic opponent, given the bypass option. Had I the display facility on its own, though, I could always use a less elaborate and less expensive competitive machine on the side, transferring the moves myself to the TV.

J. STEPHEN COLDWELL
Netherton, Huddersfield
Yorkshire.

The Editor welcomes letters commenting on subjects published in Computer Weekly, or on original topics. All letters must be accompanied by the writer's name and address, not necessarily for publication. Letters may be cut.

Few errors in 750,000 characters

I WAS surprised by Mr Tapper's letter (CW, December 3) in which he asserts that Prof Niblett made "well-justified criticisms of the unsatisfactory and outdated state of the machine-readable HMSO version of Statutes in Force" in his Legal Opinion column of November 19.

Mr Tapper should not allow his zeal to lead him to belittle the accomplishments of HMSO and interpolate the comments of Prof Niblett.

Prof Niblett's sole criticism in his column was that the Statutes in Force are outdated since the Statutes are not captured in machine-readable form at the Bill stage. In statute groups where there is considerable legislative "movement" Statutes in Force can quickly fall behind. But isn't a computerised information retrieval system just the tool to allow lawyers to integrate new statutes, repeals and amendments into Statutes in Force utilising the side notes, footnotes and citations as provided in the authoritative texts of new legislation published by HMSO?

Contrary to Mr Tapper's assertions and implications that Prof Niblett found the HMSO tapes unsatisfactory and unreliable, Prof Niblett offered considerable praise to HMSO at a one-day course dealing with these tapes held on December 11. Using software developed for the purpose at Swansea, Prof Niblett and his colleagues found no more than a dozen errors in the text of a statutory group which contained more than 750,000 characters. Can Mr Tapper's employers claim this degree of reliability for their attempt?

R. V. WALSH
Richmond;
Surrey.

Liveware File by Don

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No salary secrets or job title mystique in this coms house

by Philip Hunter

ALMOST companies keep salary details confidential and nearly all give their staff a job title. Neither of these conventions is employed by small software house Syntek, which is also unusual in specialising in technical work, usually the domain of larger companies and the universities.

Housed in three fourth-floor rooms of a central London conversion, Syntek deals almost exclusively with communications work. There are ten technical staff, all from a scientific background, and one secretary.

Co-directors Peter Hornsby and John Wielgosz who founded the company in 1979 still count themselves as technical staff, spending half their time on professional work. "Although it is a year since I did any actual coding," admits Wielgosz.

What distinguishes the programming Syntek does from that of other small software houses, other than its technical emphasis?

"The main difference is that we have to be particularly careful when we conduct our annual salary reviews," says Wielgosz. He presumably implies that salaries must be not only fair, but be seen to be fair, surely an impossible feat in a large company which employs an systematic scaled pay structure.

"The other claim for distinction Wielgosz claims for his company is frankness, and a morning's discussion with him and two of this team did much to confirm this. I always think that a hard test of a small company's success with personnel relations is embodied in its attitude to salaries. A high score for Syntek here, all salaries are published.

"It's silly to keep them secret," says Wielgosz. "Either a company believes salaries are fair and correct or it doesn't. If it does, why not publish them?" He stops short of saying what a company should do if it believes its salaries are unfair.

"Our attitude to pay means that time is a factor," replies Wielgosz. "Data processing people don't have to be conscious of time," he continues, adding that this is because they deal with disc files, which are static objects.

"We have to deal with flows for communications lines, measuring devices and dynamic input, where timing is vital," says Wielgosz.

About a quarter of Syntek's profits are shared out among its staff every six months, each bonus paid being related to salary. "This usually adds about ten to 15 per cent to annual income," says Wielgosz.

Syntek is not immune from the cold of the recession, however, and recently there was one period without a profit. There is no corresponding loss sharing scheme — instead, there was an abortive effort to implement a longer working week, staff being offered extra holiday at slack times.

Such attempts to halt the insidious advance of spare time are regarded as draconian by employees everywhere and even small friendly Syntek is an exception — the move was rejected.

Wielgosz loves an argument and encourages his team to answer back when they disagree with him over matters technical or personal. Team member Andrew Watt confirms this, while making the observation that there has to be someone to make the final decision, or else programs never get written.

There are no formal job titles at Syntek, other than for the two directors. "If a client wants titles, I guess he can have them," says Wielgosz. "Titles are just a short way of describing experience," he adds, explaining that he will call someone a software engineer if he thinks it will help a client to understand what this person has done in computing.

In common with other small software houses, rules are often reversed, with someone who has just sat it out on the coding bench putting his mind to system design.

How does Syntek recruit its staff?

"We always hold two separate independent interviews," replies Wielgosz. "Only if both yield the same verdict will the candidate be successful."

WIELGOSZ . . . Silly to keep salaries secret.

Syntek asks to see two things: copies of the candidate's work and examples of documentation. This stands to reason, Wielgosz argues, because these will after all be the two main products.

"We pose technical questions," Wielgosz continues, "because we like to see someone's mind at work. Sounds arrogant, but it's true. Also we are looking for talent, not experience. I've seen plenty of experience which can mean the person concerned has been cocking things up longer than others."

Syntek's stress on honesty can cause problems with some clients, Wielgosz claims. "One or two clients have been taken aback when some of our younger staff have been forthright," he says.

Staff, he goes on, are instructed never to conceal the truth, a policy by no means universally popular. "Sometimes clients don't want to be told the truth," he claims.

"In the case of corporate clients, contracts often go to people who say what they would like to hear, with inevitable overbudgets and a big row."

It would be nice to have a few examples of such contracts, but that would be like asking Wielgosz to go on a hunger strike.

One of Syntek's team, Stephen Lowe-Watson, is a zoology graduate who became disillusioned with his subject while doing a postgraduate course at Sussex and then turned to computing.

He explains that the problem of calculating crisis times of programs is a matter of summing the length of instructions and timing accordingly. Could this not be computerised? I wonder.

Maybe, but probably not worth it, is the pragmatic reply. An answer which strengthens my growing awareness that the last thing programmers want to computerise is their own work.

Throughout our discussion, Wielgosz stressed what he considers unusual about his company. His attitude is summed up by his words: "We do here what others merely read about in Computer Weekly."

WATT . . . Programming is living with failure until system is finally debugged.

Error-free program is only a dream

AN interesting analogy is drawn between computer programs and scientific theories in a pamphlet* written by Dr Boris Allan of Manchester Polytechnic.

If a scientific theory has not been disproved, it has only been shown to be correct so far and may later be discredited. Newton's theory of gravitation held water logically at the time and was only shown to be incorrect by later testing.

The same is true of computer programs, he argues. To show that a program is logically correct does not ensure its running on a real computer. Non-logical errors may occur, for example corrupt data might be supplied.

The so-called "correctness proofs" suffer from this flaw, Allan argues, by concentrating on logic errors and ignoring two main classes of program error: computation errors such as overflows, and incorrect input of programs or data.

Computing is a real world, not a dream, Allan reminds us.

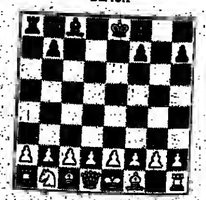
The core of Allan's argument is embodied in the Chinese proverb he quotes on the inside cover page of the pamphlet: To believe in one's dreams is to spend all one's life asleep. The perfect language and the error-free program are dreams, he maintains. Certainly a thought to begin the new year with.

*Electronic Dream Machines, Dr Boris Allan, School of Sociology, Department of Social Science, Manchester Polytechnic.

PUZZLER

IN this week's problem you are asked to create a very short "game" of chess, with only four moves played by each side, to bring about the diagrammed position.

BLACK



WHITE

White's King's-side Knight is absent, and so is Black's. The only other change from the conventional start position of a game is the advance of Black's Queen's Pawn.

(See page 39 for solution)

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OP SPOT

by Andrew Thomas

MILLER . . . "Dexterity tests have been the graveyard of many hopes."

Prove you deserve your job—do an aptitude test!

HOW did you get your first job in data processing? Unless your uncle happened to be the DP manager, you probably had to go through the time-honoured procedure of replying to an advertisement, being offered an interview, buying a suit or new dress (depending on your proclivity), and impressing the interviewer sufficiently to be offered a job.

But those of you who have interviewed anyone will know that, nerve-wracking though being interviewed is, actually doing the questioning is far more difficult and worrying. If you are applying for a job, the worst that can happen is your failure to be offered it — only you lose.

If, on the other hand, you give a job to a candidate who then singularly fails to perform adequately, you are failing the candidate, the company, and worst of all, your credibility within it.

For over two years there has been available an aptitude test for prospective programmers and analysts. This test and its variants have been used by both ICL and IBM to appraise would-be systems staff.

Although a similar test for operators has been available in the US since 1973, it has only recently been anglicised to permit its use in Britain.

The organisation responsible for both the programmer and operator tests is the Independent Assessment and Research Centre, just off Marylebone Road in London, where I talked to the director, Dr Ken Miller.

Formed in 1968, the IARC is a non-profit making organisation, with educational charity status, and its main objective is enabling industry and commerce to make the best use of manpower.

In addition to tests for technical aptitude, the centre offers tests for mental alertness, temperament, interpersonal skills, personal values, and leadership and management potential.

But back to the Computer Operator Aptitude Battery. What better way to find out about the test than to get an operator to try it? What better operator than my good self?

And so it was that, ten years after my interview for the post of trainee operator, I sat down to be tested to see if I was suitable material.

I was given a booklet containing three tests. The first was sequence recognition and I was asked to visualise the order in which to place a scrambled set of time-related events.

For example, buying a round of drinks:

1 Pay for drinks
2 Ask friends what they want to drink
3 Carry drinks to table
4 Notice glasses are empty
5 Check if you have enough money
6 Go to bar and ask for drinks

Because there isn't a "make feeble excuse for not buying drinks" choice, I would say the correct answer was 4, 5, 2, 6, 1, 3. There are 24 of these to complete in the ten minutes allowed.

The second part checked my ability to perceive whether arrangements of numbers and letters conform to specified formats. Only 48 of these to do in five minutes.

The final part of my ordeal was the logical thinking test. Here I was presented with five flowcharts and by working through them, say what various boxes represented.

I hadn't done an examination or test since I took my driving test many years ago, and the nerves came back with a vengeance.

You will no doubt be pleased (and not a little surprised) to learn that I am better than 95% of trainee operators and better than 85% of experienced ones. I knew it all along.

I asked Dr Miller whether he thought dexterity tests were needed for operators. Although he admitted that manual dexterity was relatively important for ops, he qualified this by saying: "Dexterity tests have been the graveyard of many hopes."

This test is long overdue and provides real assistance in recruiting the right staff.

Because the operator test is now a validation study is in the process of being carried out by IARC, and this is where you can help. Dr Miller needs DP departments to volunteer their operators for the test to obtain control information, and if you feel that your organisation could help, get in touch.

The complete test only takes 45 minutes and IARC would provide an examiner for your site if an experienced personnel officer was not available. All results would be available for examination.

You can contact Dr Miller at IARC, 57 Marylebone High Street, London W1M 3AE or on 01-486 6106.

Take your partners for the 3-phase alternating shuffle

HAVE you ever considered the marvellous possibilities for chaos involved in the use of three-phase power supplies for computers? Neither had I, until the day the new alternator was installed.

The engineers had planned the changeover with great precision, and assured us that we would only be off the air for 30 minutes. We shut down the machines, and sure enough, after half an hour the instructions came to power up.

Everything went perfectly. All the indicator lights shone with renewed vigour, the disc drives spun, and the printers whirred.

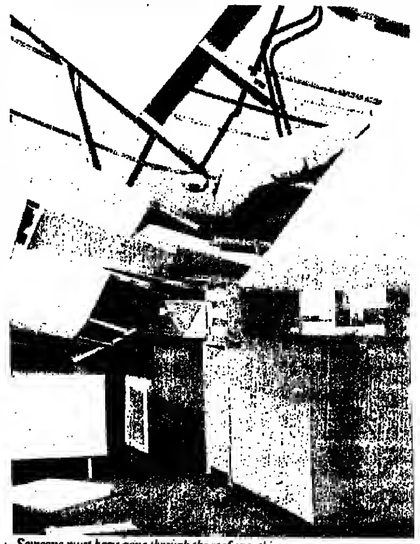
I went over to one of the printers to put a new box of one part in. Having fitted the sprocket holes over the tractors, I pressed the run out button to line up at head-of-form, but the paper didn't move. Well, it did actually — backwards — a small heap of paper had formed on my feet.

Sure enough, the tractors were running backwards. So were the hydraulic pumps in the disc drives. Thirty six drives pumped oil out of the breathers.

DISASTER

"Oh dear," said the engineer (well, that was the gist of it), "looks like we've got the phases mixed up." And this of course was exactly what they'd done.

Most of you probably know what fun it is bleeding car brakes, so you can imagine the fun involved in getting the air locks out of three dozen disc drives' hydraulics. In addition, mega-lots of fuses had blown in a selfless act of mass suicide to protect the hardware.



Someone must have gone through the roof over this one.

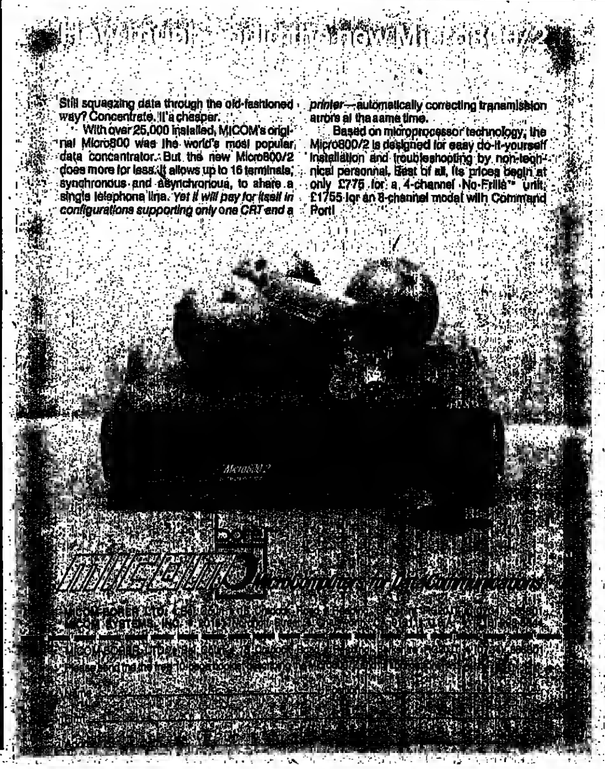
Want to see your name in print?

DO you know any horror stories that deserve to reach a wider audience? If so, write to me or phone on 01-661 3500 ext 3422. You don't have to submit completed articles, just give me the details and I'll do the rest. What better way of seeing your name in print?

Anonymity will be available on request.

All contributions will be gratefully received. Remember, if you can laugh at someone else's mistakes you aren't likely to make them yourself.

Unless you're a very silly person indeed.



Still squeezing data through the old-fashioned way? Concentrate. It's cheaper.

With over 25,000 installed, MICOM's original Micro800 was the world's most popular data concentrator. But the new Micro800/2 does more for less. It allows up to 16 terminals, synchronous and asynchronous, to share a single telephone line. *Yet it will pay for itself in configurations supporting only one CRT and a printer*—automatically correcting transmission errors at the same time.

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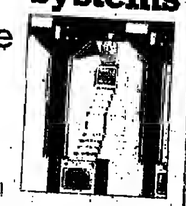

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PEOPLE

IBM names head of new operation

IBM UK has merged its Data Processing, General Systems and Office Products divisions into one, and has named Fred Clarke to head the new operation in his new capacity as general manager, marketing and services, IBM UK.

The merger, according to chairman and chief executive Edwin Nixon, reflects changes in the marketplace during the last six years since the formation of the General Business Group, which included the general systems and office products divisions.

Clarke joined IBM in 1957 after three years in the RAF and a spell as head of the maths department of a grammar school in Bishop Auckland.

He moved from selling to branch management at IBM in Newcastle, and in 1965 became manager of the London South sales branch at Croydon. He returned to Newcastle two years later as Northern district manager, going on to become process district manager in 1969.

As DP sales manager he was in 1971 elected a director of IBM UK Rentals and later director of the data processing division. By 1974, he was on the boards of IBM UK and IBM UK Holdings.

His most recent appointment prior to his promotion – that of general manager of the general business group – was made in 1975.

THESE pupils of Boston Spa Comprehensive have won £5,000 worth of Digico Prince microcomputer for their school, after being named Young Executives of the Year by Digico. Left to right: Paul Tinsley, Alan Robb, Graham Steel (standing), tutor Mr Simms and Nigel Skelton, whose team beat 32 others to first place. The competition was organised with Leeds Education Authority to promote an educational interest in computers and to demonstrate the complex factors involved in running a business. Runner-up was Morely Bruntcliffe High School, which received a £2,000 microcomputer donated by AIM.

Jarman adds to board

AIMING to strengthen further its position in the microcomputer market is Jarman Systems, the Tring-based micro software specialist which has just added management consultant Harold Norcross to its board of directors.

Norcross is part-time business counsellor and director of several companies, following a career as a management consultant, during which he founded his own management consultancy, Norcross and Partners. This was bought by US company AT Kearney in 1969, and Norcross served on the Kearney board until 1975.

Norcross has been involved with Jarman since its formation three years ago, developing accounting software.

■ John Priestley has been appointed branch manager at Prime's public services branch. He joined the company in 1977 as Midlands area sales executive, later becoming manager of the Birmingham office. Peter Thomas has become manager of corporate accounts with the company. He was previously energy branch manager at Sperry Univac.

■ David Howat has joined Compeda head office as commercial manager of the plant division. He was previously manager of international operations with Concord International.

■ Bob Norfolk-Thompson has joined Wordplex as an account manager. He was previously a salesman with Cowper Typewriters.

■ Peter Butllo, who joined Memorex in 1975 as small systems sales manager, has been promoted to UK sales manager, communications, of the company.

■ Ken Brereton has joined Lundy-Farrington as a senior sales executive from De La Rue Systems, where he spent 19 years, serving most recently as export sales manager.

IEETE award winner

A THIRD engineer (Contracting) with the Eastern Electricity Board has won the IEETE's Girl Technician of the Year Award, co-sponsored by the Caroline Haslett memorial trust. She is Patricia Haynes, 24, who received a prize of £250 and an inscribed rose bowl. Runner-up was Linda Gardner, a higher scientific officer with the Ministry of Defence in Malvern.

Hoynes joined the EEB eight years ago as a student apprentice engineer (commercial). During this time she took a day-release course for the Ordinary National Certificate (Electrical Engineering), which she gained with four distinctions.

This was followed with a block-release course at North East London Polytechnic where she gained a Higher National Diploma in electrical and electronic engineering.

Engineering councillors

GEC research director Derek Roberts and IBM (UK) Laboratories managing director John Fairclough are among the 17 members of the Engineering Council appointed last week by the Department of Industry.

The Engineering Council will take over many of the responsibilities of the Council of Engineering Institutions. Members, who are appointed for two years part-time, include employers, academics and union leaders, but most have professional engineering backgrounds.

■ Mike Pineott has been appointed sales manager of Minerva Computer systems. He previously spent nine years with ICL, and the past three years working for Data General.

■ Jan Jennings and David Prior have joined Prime as sales executives. Jennings, formerly with United Computing Services, joins the Feltham office and Prior, previously with Sperry Univac, will be based at the company's Bedford office.

■ Douglas Jones has joined Bexley Council as assistant data processing manager. He was previously with Baric Computing Services for 10 years.

■ Ken Hawkins has been appointed sales and marketing director for Freight Computer Services. He has been with the company for nine years, responsible for its minicomputer activities.

■ Alan Hatley has joined NCR as area manager for Scotland. He was formerly district manager specialising in the sales of NCR equipment to local government in Scotland. He has been with the company for 15 years.

■ John Barnes has been appointed sales executive at AM Jacquard Systems. He joins the company from NCR where he was an account manager.

■ Avis Clarke has joined Micro Scope as consultant to head support and customer liaison for the company's range of travel industry products. She was formerly a consultant with Dataskil.

■ Colin Stone has been promoted from regional manager to UK field manager at Storage Technology. Phil Stapley has been promoted from senior UK national specialist to UK technical support manager at the company.

■ Richard Smith and Jim Hewett have joined Rediffusion Computers' Crawley office. Smith, formerly a manager with ICL, is systems verification manager. Hewett, who is product promotions manager, has been with the company's Birmingham office as territory manager.

■ Ken Baker has joined Compeda as commercial manager, electronics division. He joins from Plessey Microsystems where he was marketing manager, memory products.

New offices for GMSL

GMSL has opened new offices in Hove, Sussex, to house staff based in the Southern region. The company has developed in a few years from the systems department of a large mainframe computer bureau serving the needs of the Grand Metropolitan Group, to become a systems and software house serving industry generally. Cambridge House, the new premises, is in Davigor Road, Hove.

INBUCON'S mini- and microcomputer trainer Don Remenyi has travelled over 20,000 miles in ten days to present courses in Hong Kong, Singapore, London and New York. Remenyi has been spreading the word to managers and potential users of small business computers, and provided hands-on experience in operating and programming small business machines to 2,000 people worldwide last year.

Wang manager

EUROPEAN corporate communications manager for Wang is Sheryl Garelick, who has been promoted from international marketing communications manager. Garelick has been with the company since 1978, when she joined as communications manager, office systems marketing. She will be based in Frankfurt in her new post.

DIARY

JANUARY 11

Visit to Charles Wells Ltd, Bedford. BCS Bedfordshire branch. Numbers limited, so apply to M. Mimms on Rushden 315515.

Privacy – joint BCS and IDPM meeting. IDPM Norfolk branch/BCS East Anglian branch. Castle Hotel, Norwich. 7.30.

JANUARY 12

Autobanking. IDPM Scottish branch. Edinburgh University, Students Association, 60, The Pleasance. 7.30.

A view from DP staff in internal audit. BCS Auditing by computer group. Connaught Rooms, Queen Street, London. 4.30.

Ada Programming. BCS Bristol branch. St Vincent Rocks Hotel, Clifton. 7.15.

JANUARY 13

Micro to mainframe communications. BCS Edinburgh branch. Mountbatten Building, Heriot Watt University, Grassmarket, Edinburgh. 5.30.

Computing in your profession. BCS Humberside branch. Grange Park Hotel, Willerby. 7.30.

The presidential visit – Do we need a computer strategy? BCS Kingston branch. Kingston Polytechnic, Penrhyn Road, Kingston-upon-Thames, Surrey. 7.30.

Pascal, Qupro Data Systems. BCS Leicester branch. Lecture Theatre, James Went Building, The Newarke, Leicester. 7.00.

JANUARY 20

Meeting. IBM Computer Users' Association Management Group. Birmingham Metropole Hotel, National Exhibition Centre, Birmingham. Details from Mrs Speciale on 01-551 1643.

Meeting. IBM CUA Operators Problem Determination Workshop. Grand Hotel, Bristol. Details from Mrs Speciale on 01-551 1643.

CONFERENCES

■ FOUR speakers will present papers and lead discussion on the practicalities of project management at the Association of Project Managers' Project Management in Practice seminar, to be held at the Waldorf Hotel, London, on January 21. Speakers will emphasise how the gap between management systems and their application can be bridged. The fee, which includes VAT, is £34 for association members, and £42 for non-members. Further information from the Association of Project Managers, 13 The Chase, Penn, High Wycombe, Buckinghamshire HP10 8BB. Tel: (049) 481 2788.

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Computer Weekly backed the first ever Gulf Computer Exhibition and Conference, held last month in Dubai

Middle East's DP market on brink of boom

THE market for computer systems and services in the Middle East is on the brink of rapid expansion as government and local businesses snap up the benefits of information technology.

And with companies like ICL, Scicon, Systime and Racal-Milgo already having a strong presence, the UK is set to take a substantial share against fierce US competition and awakening interest from Japan.

Though oil companies have naturally led the way in introducing computers to the Middle East, the real growth is now occurring in public administration and utilities and, increasingly, among privately-owned trading companies.

ICL has £4.5 million in sales to the Middle East and Jim O'Neill, Middle East sales manager, predicts up to £9 million a year by the end of 1982. The regional sales manager for a major US company added: "We see revenue doubling every year.

"Most customers are in phase I of their development, with standard implementations in batch," he said. "But we get more and more users coming to us to see what their kit can do. Phase II will come shortly when the users get their computers. Then, the market will go. And it's absolutely right for small systems."

The potential of the market was revealed at a unique event just before Christmas in Dubai in the United Arab Emirates, the very Westernised trading centre at the neck of the Arabian Gulf.

The event was the first Gulf Computer Exhibition and Conference, backed by Computer Weekly and its new publication Middle East Computing. The exhibition attracted almost 50 stand holders from Europe and the US, with representatives from Canada, Japan and India thrown in, as well as locally-based companies. The conference was chaired by Computer Weekly Editor Simon Timm.

Visitors totalled 3,184 over the five days of the show from December 15-19, while the conference pulled in over 160 delegates over two days. Both events were held in the modern Dubai International Trade Centre, which organised the exhibition, and there was universal praise for the quality of visitors from exhibitors.

Local attendance from Dubai and the other Emirates, notably Abu Dhabi, the largest, formed the largest percentage of visitors, though the all-important Saudi Arabian market next door was heavily represented.

Exhibitors included most of the big names in the region, from IBM, NCR, ICL and Data General to Wang (via the local Emirates Computer Company), Systime, Scicon and Prestel.

Britain's National Computing Centre has teamed up with locally-based Datamation Systems to sell its training packages and Filetab among other products, while other UK training companies like Keith London Associates and Automated Data Systems were also represented.

The main selling effort is from minicomputers up to large systems, reflecting the fact that many large organisations have standard applications which have still to be computerised.

Direct sales of computer equipment to the Middle East are not great. Figures from the British Overseas Trade Board for 1980 put Saudi Arabia's imports from the UK at just over £6 million, and from the US just under £7 million. The whole regional market is put at about £60 million for non-weapon DP systems.

But this figure can be multiplied several times for related services from facilities management, support, training, software maintenance and the like.

Sales of microcomputers are hesitant. Systime's Gulf general manager, Frank Harrison commented: "Our sales are mostly mid-range. Say 10 terminals and above. Our 500 micro is becoming a good prospect but most of the Tandys, Apples and Pets are being sold for home use, with some to people like financial directors purely to run Visicalc.

"Very few are for commercial use," Harrison added. He is predicting sales of between £1.5 and 2 million for Systime in the Gulf during 1982.

CORDER . . . "Training plan for the whole Gulf is an urgent requirement."

Training to keep out foreigners

TRAINING is an essential part of any systems supply to the Middle East, with Arab users the key target.

At least part of the reason is racial. The results of a recent census within the United Arab Emirates, so far unpublished, are thought to have revealed that Arabs make up as little as 15% of the population, while Europeans (mainly British) make up about a third. The balance is from India and Pakistan, and it is Asians who hold most of the middle and low-level jobs.

Making up the shortfall of Arabs for government ministries is an essential element of the drive to computerisation, as is the unspoken but important task of reducing the dependence of the general economy on immigrant, especially Asian, labour.

The UAE has an embryonic National Computing Centre set up with United Nations backing and modelled on the UK's NCC. There is also a Computer Training Centre in Kuwait.

ICL maintains a staff of 20 at the Abu Dhabi National Oil Company, mainly concerned with software development but also involved with training, while IBM is on the point of opening a training centre in Dubai.

Inevitably the sharks of the training world have also latched on to the Middle East. Gavin Whichello, training manager for Britain's Automated Data Systems, says that users are well advised to steer clear of companies using contract trainers. "No contractors," he says. "That's the way to lose your reputation."

Already established in the area is Keith London Associates, and managing director Colin Corder gives regular courses in the Dubai International Trade Centre.

In an address to the Gulf Computer Conference, Corder warned: "There is a shortage of skilled computer staff . . . and an almost total lack of knowledge among computer users as to both the potential and the problems of computers. In both these areas the position will worsen in the immediate future."

Citing the adverse effects of expensive expatriate staff with little loyalty to any organisation and frequent job moves, he said that a training plan for the whole Gulf, within a country or within any organisation is an urgent requirement.

Software the key to systems sales

EVEN more than markets elsewhere, sales of computer systems in the Middle East are software-driven.

A local executive from IBM, who admitted the company is not pushing sales much below the System 34, said: "I think I can say that no customer – or perhaps one university – has taken a 34 without proprietary software. I don't think the 'make' business is here. They'll not buy and develop for themselves."

Even in established sectors like banking, where IBM runs neck and neck with NCR for market leadership, the software houses make all the running, he added.

"We can sit back happily and let John Hoskyns sell a couple of 4341s. The customer comes back in a couple of years' time when he needs more capacity. It's wonderful business."

Third party vendors who are well established in the United Arab Emirates include Hoskyns and BIS in banking, and Datamation Systems, Alpha Data Processing Systems and Alghanim Information Management Services (Aims), which supplies Package Programs Ltd software, for general packages.

Opinion among vendors about the extent to which Arabic should be built into software differs, mainly depending on the market being tackled.

The Gulf general manager for Systime, Frank Harrison says: "Most enquiries we get are commercial, and not for Arabised systems. Of course we supply English/Arabic terminals and English-/Arabic printers, but we find we sell to English and Asians in trading companies."

Kevin Hughes, international director for Computer Resources, disagrees. "Systems must be developed in Arabic from the start," he says, "not merely rewritten from a different language."

Computer Resources is in the middle of a £3 million contract to supply a 4341-based system for the General Presidency of Youth Welfare in Saudi Arabia. It is doing it by building a mirror-image system at an Arabic data centre in Woking and has hired Arabian programmers to work there.

HUGHES . . . "Systems must be developed in Arabic."

Hughes cites a range of factors which demand Arabic is built in right from the start. They include the fact that up to five names are required to uniquely identify an Arab; that Arabic writing, including dates, runs from right to left; that tax, pension and health contribution deductions are not generally needed on payroll packages; that screen prompts need to be tactful and far less abrupt to avoid offending Arab users; and that the use of keyboards is not generally acceptable to Arabian managers.

In an address to the Gulf Computer Conference, he castigated the suppliers and builders of what he termed "monolithic, unamendable programs" developed with little thought for future requirements. He also criticised suppliers who simply branched round unwanted routines within standard programs and called the result an Arabic package.

The comments reflect the fact that Systime is mainly established among commercial users, where English is the norm, while Computer Resources has made its mark in the government sector where the requirement for Arabic, especially in Saudi Arabia, is essential.

Oil companies ahead with some of the world's biggest sites

OIL companies naturally dominate the use of computers in the Middle East, and their influence was seen at both the Gulf Computer Exhibition and Gulf Computer Conference in Dubai.

Probably the biggest IBM and ICL installations outside their home countries are seen in the region. Saudi Arabia's giant Arabian American Oil Company (Aramco) which handles its oil exports is an IBM site, while the Abu Dhabi National Oil Company (Adnoc) in the United Arab Emirates has nine ICL processors.

Other IBM installations include the Bahrain Petroleum Company (Bapco) and Qatar's oil-producing organisation, while ICL has a large installation at the Kuwait Oil Company.

Applications developed at these sites are among the most sophisticated in the world. Former director of DP services for Adnoc, Ali Mosawi, told conference delegates that the company was on the road to developing well history techniques which will allow petroleum reservoir engineers to have a complete history of a well's characteristics and history to allow them to maximise oil production.

Techniques like these and reservoir mapping, as well as the control of a multitude of wells and pipelines, soak up processor power and demand huge add-on memory. Database management systems are widely employed.

The oil companies are also pressing ahead in non-oil systems. Carl Bistany, head of the Emirates Oil Company in Abu Dhabi which has the exclusive Wang agency for the United Arab Emirates, notes the advance in networking word processors.

Engineering and scientific applications are high on the oil companies' shopping list. Adnoc has just gone out to tender for a scientific computer centre, while ICL used the Gulf Computer Exhibition to launch its Perq into the Middle East.

The company's sales manager for the region, Jim O'Neill, reported strong interest and the demonstration package at the show ran virtually non-stop.

MOSAWI . . . oil company is developing well history techniques.

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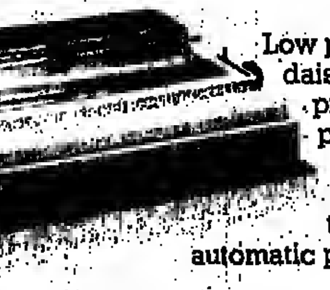

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Hand-held tester detects computer network faults

DELAYS in the installation of data communications links and faults in computer networks can be reduced with a new hand-held black box from Electrodata, claims David Bissett, the sole UK distributor.

The MTS-2 Interface and Modem Test Set will isolate the fault, and tell the data processing manager or systems engineer if the fault is in the computer terminal, the data modem, the cabling and connectors between the units or on the leased line that links the computer sites or offices.

Battery-operated and weighing 1¼lb, the MTS-2 is claimed to test almost any data modem (synchronous and asynchronous) plus data multiplexers, acoustic couplers and interface units.

In particular, it can be used on fast asynchronous modems that transmit and receive at speeds up to 9,600 bits per second and modems needing "start" and "stop" bits for word patterns, eg for Ascii character-codes. It also tests synchronous modems that operate up to 76.8 Kbits per second and can monitor standard RS232C/V24 data interface cables.

The MTS-2 was designed by Electrodata for use with conventional and advanced modems (such as the Racal VA3400), high speed full duplex data links, statistical multiplexers and time division multiplexers (used in data links).

It is housed in a small sturdy plastic case, size 5½ × 3¾ × 2¼ inch which opens up to reveal two halves.

David Bissett (CW), 52 Luton Lane, Redbourn, St Albans, Herts AL3 7PY. Tel: (058285) 2637.

Interaction Systems' Model TK-2100 gives DEC's video terminal a touch-sensitive CRT option.

PoS till for the multiple retailer

IN A move to capture an increasing share of the expanding retail wholesale and cash and carry marketplace, Riva Turnkey Computer Systems has announced details of its latest PoS system, the Riva Retail Custom Till.

It is designed for the multiple retailer and provides descriptive invoices, price look-up plus stock control and replenishment within the till. Each till costs £2,000.

The PoS till features twin microcomputers. It is fully solid state with a Riva designed automatic overnight communication system. In addition, the company has developed a computer system for the head office to handle buying and merchandising with links to the company computer or standalone with accounts and warehouse stock control.

The Riva is said to offer solutions to the retailer, wholesaler and cash and carry operator.

Riva Turnkey Computer Systems (CW), Adam House, 66 Chorley Street, Bolton BL1 4AL. Tel: (0204) 39143.

'Fingertip' option for DEC video

A CUSTOM-designed touch-sensitive CRT option for the DEC VT100 video display terminal has been introduced by Interaction Systems and is available from Peripheral Hardware.

Designated the Model TK-2100, it complements the double-height double-width character feature of the VT100, resulting in a display that is suitable for menu selection applications.

The option allows data to be input to a system by touching with a fingertip the area where appropriate information is shown on the display screen of the VT100.

The option consists of a touch-sensitive faceplate, an electronic touch control and interface board, interconnecting cables and mounting hardware.

The Model TK-2100 is priced in single unit quantity at $945.

Peripheral Hardware (CW), Armfield Close, West Molesey, Surrey. Tel: (04252) 71511.

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Delta's latest emulator offers more facilities

DISPLAY terminal manufacturer Delta Data Systems has repackaged its Burroughs TD830 emulator, providing more facilities.

Designated Delta 2830 II, the compact display terminal provides full hardware and software emulation of TD830 displays, still retaining the facilities of the original Delta product. These include printing facilities which allow the user to connect any printer to the system and use it as a polled device; an enhanced communications buffer which does not lock-out the keyboard during transmissions; and long distance concatenation of terminals together with the company's Auto Bypass feature which means that the user does not have to cable around a terminal in the concatenated chain which has been powered-down.

It also has the ability to handle TDI (Two Wire Direct Interface) and synchronous and asynchronous RS232 communications in the one terminal, which avoids upgrades, and enables a string of terminals to be concatenated from each TDI connection.

The compact terminal is lighter and therefore more portable than the original Delta 2830. The keyboard is connected by a spiral cord to the display unit which may be fitted with a tilt and swivel option. New features in the standard terminal include the ability to use the block numeric keypad additionally as RAM programmable function keys.

Delta Data Systems (CW), Swallowfields, Welwyn Garden City, Herts AL7 1JD. Tel: Welwyn Garden 33833.

8-inch disc drive holds 'twice normal storage'

A COMPACT 8-inch floppy disc drive called Thinline, measuring half the thickness of a single conventional 8-inch floppy disc drive, is being introduced on to the UK market by Hal Computers.

Manufactured by Tandon, the Thinline is claimed to allow twice the storage capacity to be packed in the same space occupied by previous earlier drives so that real capacities of up to four Mbytes are now achievable in the usual 8-inch floppy disc drive envelope size.

Thinline operates off only DC power (5v and 24v) so that it runs cool and has a step speed of only 3mS. A new method of construction also allows the drive to compensate for changes in temperature and humidity.

The read/write head is guaranteed for 15,000 media contact hours and the double-sided drive uses the patented Tandon head design.

Packaging from Hal, designed and built in Britain, together with power supplies is said to make incorporation into or addition to existing systems simple.

Two versions are available – the single sided TM848-1 and the double-sided TM848-2.

Hal Computers (CW), 57 Woodham Lane, New Haw, Weybridge, Surrey KT15 3ND. Tel: (0932) 48346.

Terminal is HP compatible

THE latest, and what is claimed to be most powerful, member in its range of Hewlett Packard compatible terminals has been introduced by Direct (UK).

The VP 828 allows users to operate on HP 3000 series computers in place of HP 2645A and 2624 terminals, also to operate as an Ansi compliant terminal, like a DEC VT 100.

The VP 828 is said to allow easy forms design and control with data editing and validation built into the forms. The V/3000 screen management system is fully supported and optional Hewlett Packard compatible maths and large character fount are available to extend the VP 828's capabilities.

All Direct terminals are housed in a unit with a folding detachable locking keyboard unit. Features not previously available, says the company, include 80 and 132 column screens and 32K for display memory. It can also communicate with other mainframes.

Direct (UK) (CW), 12 Rufford Court, Hardwick Grange, Woolston, Warrington WA1 4RF. Tel: (0925) 814072.

The man who, at 29, set out to create the world's largest computer company, talks to Kevin Cahill in Tokyo . . .

Sord is set to repeat Japan's micro 'revolution' in the UK

SHIINA . . . . . . "doing the bit that Apple forgot."

THE fastest growing company in Japan for the past five years, out of 600,000 checked in a survey by the Japan Chamber of Commerce, was Sord Computer Systems. Its average annual growth in those five years was 85% and last year it passed 100%. Next year the company will grow by 300% according to its 37-year-old president, Takayoshi Shiina.

This is nearly double the best growth achieved by Apple Inc (186%) – and Shiina has usually been right in his predictions. With four months' trading under his belt, his unit sales have already doubled since the beginning of the year.

Total sales last year, mostly in Japan, were $140m. This year, with the Sord French agent taking 6,000 machines, the German market taking off and Sord's Irish factory coming on full stream, total sales value is likely to move towards $300 to $400 million.

But those phenomenal growth rates alone are not what make Sord so special.

The company is seven years old, and basically makes and sells microcomputers.

Sord Computer Systems is the brainchild of one man, Takayoshi Shiina, who, in traditional Japanese fashion, went out on his own at the age of 29 with the ambition of creating the world's largest computer company.

He was supported by his mother and his uncle, together with his sales director and R&D director, both of whom are still with him.

Shiina describes the first three years as very difficult, bordering on a nightmare.

Japan is not geared to coping with, or financing, the kind of operation Shiina embarked upon. Quite simply, he had decided, following a spell in the US, to build a microcomputer for half the price of anyone else's.

He took as his model the DEC PDP-11 which, years ago, was selling for $10,000. Shiina decided he wanted to try and put together a mini for $5,000 and this strategy illustrates the key difference between Sord and Apple, with which it is often compared.

Shiina's ultimate goal is a socio-technical one. He wants computer power so extensive and so cheap that people can "go back to the land, and work from home".

His aim is not a paperless office, but an officeless world.

Shiina has progressed his way towards a personal computer by working downwards, from the mini to the business micro, to the as yet undelivered personal computer.

Apple came in from the bottom, and now, with the Apple III, is directly challenging the market segment in which Shiina has triumphed in Japan and in which he is seeking to repeat his success in Europe.

In terms of philosophical goals Shiina sometimes sounds like Steve Jobs, the founder and current chairman of Apple.

The difference is that Shiina is chief executive of Sord, still guides the company, and above all else usually decides where Sord is going.

The money man from Intel, Mike Makkula, has long held this function at Apple, and the effective departure of Steve Wozniak has consolidated his hold on that company.

But even more fundamental than the location of power in the company is the marketing approach adopted by Sord.

As one UK expatriate executive in Japan put it: "Shiina does the bit that Apple forgot."

What he meant was that Sord provides not only a flexible machine on which to run all the conventional programming languages such Cobol and Basic, but a fully supported easy-to-use language peculiar to Sord's own machines.

The language is PIPS, short for Pan Information Processing System.

To the programming expert it is a simplified, slow, high level language, directly interpretable.

To the small businessmen and divisional managers who have bought Sord machines in quantities it is a simple tool which, with a minimum of training, enables them to solve day-to-day problems.

It takes about 16 hours to learn enough about PIPS before a user can do all the common tasks of filing, reporting and business accounting. It takes about three and a half days to become fully proficient in the use of the language, to the point where communications problems, multiple machine and file tasks can be solved.

This is probably a 300% improvement on the speed at which Basic can be learnt, and a 500% improvement on the time it takes to become proficient in Basic to the point where it can effectively be applied to common business problems.

If Apple launched its machine mainly at the personal/hobbyist user, Shiina launched his first machines at a different age and occupation group.

He targeted for himself the small businessmen, and the 30 to 40-year-old company managers – what the Japanese call the "salary men."

Shiina correctly reckoned that many of these would have tried Basic and either found it inapplicable, or just too difficult to learn in the time available, judging by the numbers of middle-aged managers passing through his central Tokyo store during the PIPS training sessions.

Shiina says that middle managers cannot afford to buy a computer system which compounds their business problem with the technical problem of learning how to program.

Given these problems and Shiina's determination to make his system as usable as possible, the invention of PIPS became not an ideal, but a necessity.

And from that necessity has grown a further extension of Shiina's concept of utility.

Traditionally Sord has carried out its marketing activities through a network of dealers with a single distributor per country or region.

In the UK for instance, the Japanese trading house Mitsui is currently acting as distributor with two agents, Midas in Sussex and Exleigh in Cornwall.

Shiina now says that his factory and distribution operation in Dublin, called Orange Computer Products (OCP) will become the distributor for the UK with the main marketing thrust via the PIPS INN franchise operation.

PIPS INN is the logical extension of the PIPS language and Sord hardware concept, according to Shiina.

When a customer buys a Sord computer from a PIPS INN he or she gets with it a 16-hour education package and a complete range of hardware and software support at an identifiable physical location. This is an approach directly opposite to that adopted by many micro distributors, particularly Apple which has relied on small electrical retailers and other shops to supply the machine on the assumption that buyers will be sufficently motivated to learn Basic themselves.

Shiina plans to open the first PIPS INN in London early this year. He is currently opening them in Japan at the rate of two to three a week with a target for 1982 of 200.

Shiina has also "done an Acorn" by launching a Sord radio based learning system through a local radio station in Hokkaido.

So far over 2,200 people have booked to learn PIPS on Sord machines through this service.

Sord has caused a virtual revolution in the Japanese micro industry. It now looks as if the company is set to do the same here.

The main PIPS INN in Tokyo. The first UK store is due in the spring.

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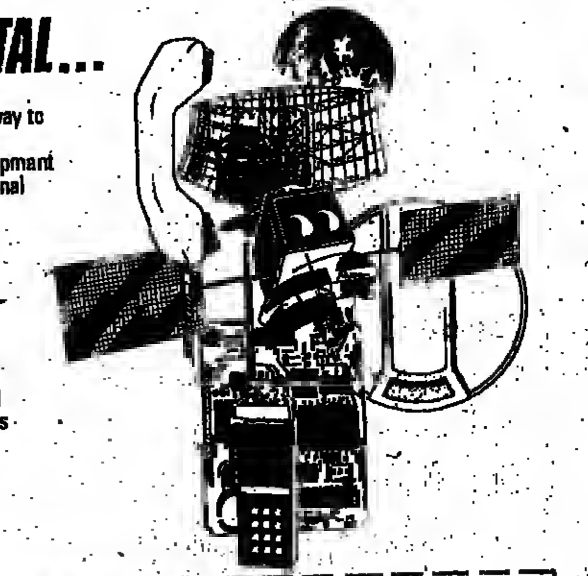

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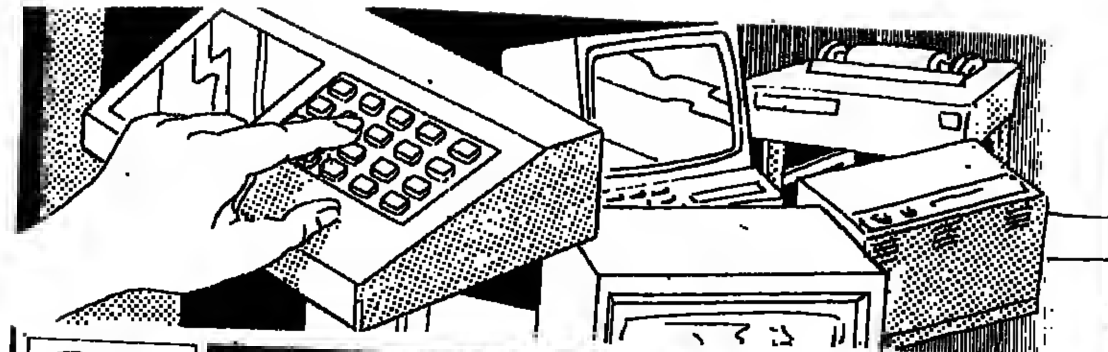

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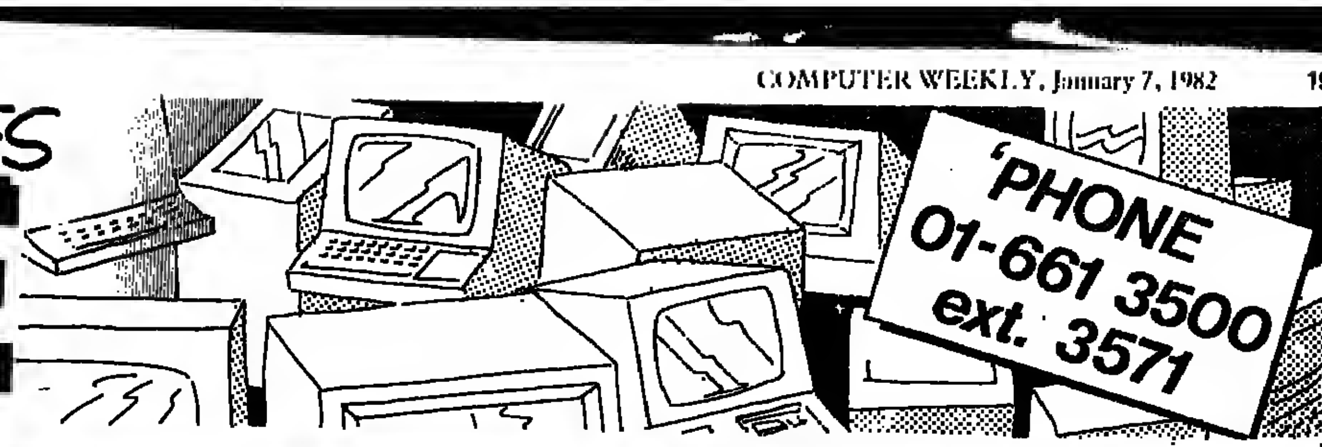

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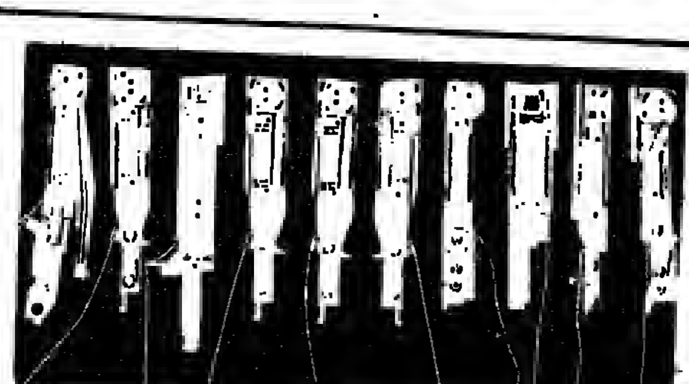

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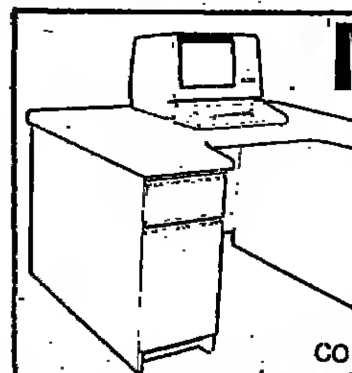

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The Systems Design Team is constantly expanding in order to meet demand from international branches. Subsequently our client urgently requires COBOL and BASIC programmers to develop a variety of Banking Packages for implementation throughout the world.

Central London

from £7,500 + bank benefits

The equipment consists of up-to-the-minute mini and micro technology essential to the development of on-line real-time applications.

Ideally you should possess a sound knowledge of either COBOL or BASIC with a keen incentive to progress to analysis.

Please apply to London Office, telephone 01-353 0981, quoting reference: C1/0701.

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50a London Street, Reading, Berkshire RG1 4SQ Telephone: Reading (0734) 585802 24 hours

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TEAM LEADER

London/Essex £12K+

If your last 4 years includes 2 years' PL/1 on IBM mainframe, ideally using CICS and you have supervisory experience, an A Level education, are outgoing and can communicate well, then this international company offers challenging project work plus major benefits. (TH 2262)

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If you have 8100 DPCX exp. as an applications programmer and can imagine being trained in problem determination and resolution, performance tuning of 8100 with a view to becoming an expert in COMMS Systems Programming . . . . ACT NOW (TH 2413)

SNR PROG

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Major financial development plans within large IBM network offers exciting opportunities for your 3 years - COBOL/ASSEMBLER exp. CICS would be an asset. Rewarded by attractive package incl. discretion mortgage, free BUPA, Flexi time etc etc. (TH 2289)

ANAL PROG

Middlesex to £11,000

Your 2 years COBOL exp. is needed by this large manufacturer to design commercial systems for a wide variety of Hardware. Excellent opportunities for career progression. (JA 2149)

SALES

City

ANAL/PROG

Berks £11K+

Your 2 years - R/T programming using RTL 2 and MACRO ASSEMBLER on defence/scientific applications plus your ability to communicate with users will secure you the position of Team Leader or member of teams involved in Telemetry and Tele-control customer projects, for this progressive company. (RD 2297)

ANAL PROG

£8K

Leading pharmaceutical company

PROJECT MGR

City to £17K

City based company committed to developing a wide ranging program of computerised computerisation, urgently require your 8 years - management skills to lead the way forward. (GT 2287)

RPG 11

Surrey £10K

Your 2 years System 34 programming and systems design exp. will secure you this Analyst Programmer position developing and monitoring systems both here and European branches of International pharmaceutical company. Excellent benefits. (RD 2415)

(7917)

01-404.0152

COMPUTER SEARCH LIMITED

Norwich House, 13 Southampton Place, London WC1

myriad

MVS Senior Systems Programmer

The DP Department has recently installed a 12 megabyte **Amdahl V7B** with double accelerator to handle their expected workload increase over the next two years.

Wang equipment is used to provide word processing facilities and the Company is considering more extensive use of mini computers to support the powerful mainframe.

MVS/SP1.1

The machine is currently running MVS/SP1.1 at a high maintenance level and the Department is planning to install **VM/SP** in the middle of 1982.

APL will be introduced under **TSO** early in the New Year to provide a PERSONAL COMPUTING service for their users.

Other software includes **CICS/VS, IMS, TSO, SPF** and **LIBRARIAN** and the SYSTEMS PROGRAMMER will be responsible for evaluating possible additional software packages as well as tuning the existing system.

120 on-line terminals going to 200+

The users are heavily dependent on real-time systems and they are keen to increase the number of terminals to well over two hundred during the next 2-3 years. On-line processing has played an important part in our Client's success and the DP Department is continually seeking ways in which to improve the overall service.

Circa £13,000

The basic salary is further supplemented by an ANNUAL BONUS, **free restaurant, free life assurance** and **a free private health scheme.**

This senior position will cover all aspects of systems programming with a specific responsibility for the MVS software. VM experience would be an asset but is not a requirement.

The City

Our Client is one of the UK's largest insurance and financial organisations dealing in more than 150 different currencies. The modern offices are situated in the heart of London and should prove no problem for people travelling in from London and the Home Counties.

Please apply to our London office for further information quoting, Reference S1/0701.

Myriad Appointments Limited

30 Fleet Street, London EC4Y 1AA Telephone: 01-353 0981 24 hours
50a London Street, Reading, Berkshire RG1 4SQ Telephone: Reading (0734) 585802 24 hours

(8028)

Recruitment Consultant

Does the idea of running a business within a business appeal? If so, read on . . .

We are a busy search and selection consultancy within the £75M Charles Barker Group of communications and consultancy companies. We are now seeking an additional Consultant to take responsibility for our Computer and Electronics recruitment activity — already well-established but ripe for considerable expansion.

The "man specification" and rewards package (which will include a car) are both flexible — but will, of course, be mutually compatible. Nevertheless, it probably goes without saying that technical/market knowledge, commercial flair and self-motivation are essential; previous experience in this field of recruitment would be a bonus.

If you are interested, telephone or write to Charles Walker at the address below.

Charles Barker

MANAGEMENT SELECTION INTERNATIONAL LTD.

30 Farringdon Street, London EC4A 4EA. Telephone 01-236 0588.

MANAGEMENT SELECTION — EXECUTIVE SEARCH

myriad

Glanzware Computers

Analyst/Programmers

Hewlett-Packard

Our client, a leading supplier of Hewlett-Packard business systems throughout Europe, has offices in London, Geneva, Zurich, Lisbon and The Hague.

As a result of their significant growth in the U.K. they are seeking to appoint both Junior and Senior Commercial Systems Support staff. Candidates should possess around two years' experience of HP 250/3000 systems using IMAGE database together with either COBOL or BASIC.

London and Home Counties
£Neg Car depending upon experience

If you are self-motivated and looking for a challenge in a dynamically expanding environment, then contact Myriad to discuss the excellent career prospects and first-class remuneration package available in greater detail. Please apply to London Office, telephone 01-353 0981 quoting ref: N1/0701.

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SOFTWARE ENGINEERS AND HARDWARE ENGINEERS to circa £11.5K

Switch to a new Micro-world of Telecommunications Success

A switch to TMC connects you to the Philips Micro-world of technology.

TMC Ltd, which has many new developments in prospect, is the highly successful and expanding division of Philips Business Systems specialising in the design, development and manufacture of advanced telecommunications and electronic business equipment.

We seek enthusiastic and well motivated engineers, educated to degree level, with at least 2 years post graduation experience.

You will be working on telecommunication systems, exploiting the technologies of L.S.I., thick film micro-electronics and microprocessors, in the areas of telephone switching, data transmission and subscribers apparatus.

Real Time Software Engineers

You should be a software specialist, with a minimum of 2 years Assembler language experience, plus, at least one year's high level language programming experience.

Hardware Development Engineers

For these vacancies you will need upwards of 2 years practical experience using L.S.I. technology in process control or switching developments.

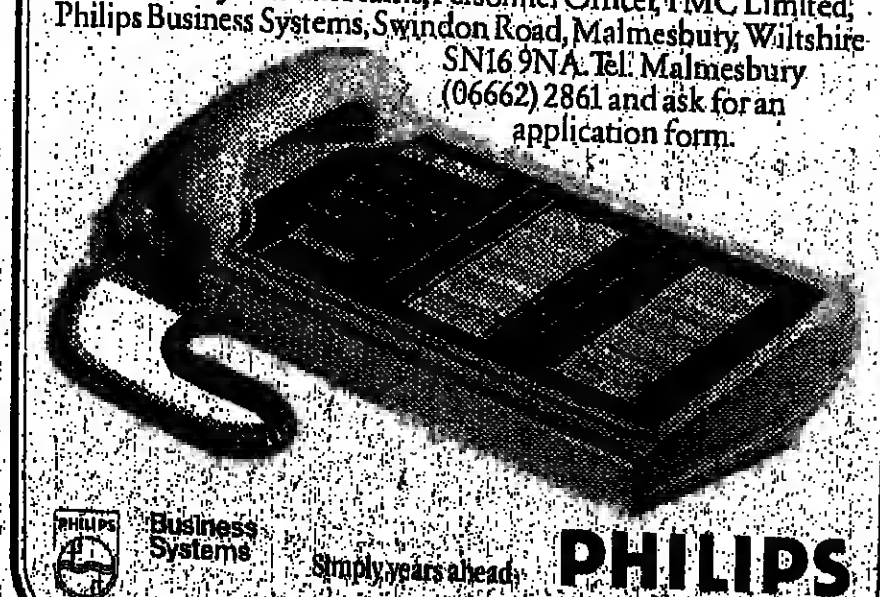
Our expanding development programme means that we need skilled people at the following levels and their initial salaries will be as indicated:

- Project Leaders to c. £11,500.
- Senior Development Engineers to c. £10,500.
- Development Engineers to c. £8,500.

We are based in Malmesbury, Wiltshire, a small historic town situated just south of the Cotswolds with good road and rail links to London and the South West and attractive housing. We also offer 25 days annual leave, staff restaurant, Private Patients Plan at concessionary rates, staff discount on Philips products, social and sports club and relocation assistance if necessary.

SWITCH TO SUCCESS

Contact Jonathan Harris, Personnel Officer, TMC Limited, Philips Business Systems, Swindon Road, Malmesbury, Wiltshire SN16 9NA. Tel: Malmesbury (06662) 2861 and ask for an application form.



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UNIVERSITY OF BRISTOL

DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING

LECTURER IN MICROELECTRONICS

The University invites applications for two appointments as Lecturer in Microelectronics from well qualified candidates with experience in one or more of the following areas: CAD of digital systems, operating systems, microprogramming, microcomputer applications, computer architecture and distributed systems.

The posts will be within the Department of Electrical and Electronic Engineering.

The commencing salaries will be at appropriate points, according to age, qualifications and experience within the range £6,070 to £9,335 per annum on the Lecturer Scale which rises to a maximum of £12,860.

Candidates are invited to submit applications including the names of three referees, not later than January 28, 1982, to the Registrar and Secretary of the University of Bristol, Senate House, Bristol, BS8 1TH, quoting reference JPB, from whom further particulars may be obtained.

(7898)

QUEEN MARY COLLEGE University of London

VME/B PROGRAMMERS

Two posts are available in our Computer Centre, providing general research/teaching services to the University of an ICL 2980 and a national service on an ICL Distributed Array Processor (DAP):

a) primarily to assist users of the DAP service but also to develop/support utility software;

b) to develop/support DAP software and the user interface to the DAP.

Salaries in range £5,285-£10,575 + £967 London Allowance.

Applications, including age, education, experience and names of two referees, should be sent to The Secretary, Queen Mary College, Mile End Road, London E1 4HS. (8021)

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Stella no break systems throughout U.K.

Contact U.K. market leaders: Emerson Electric Elgin Drive, Swindon. 0793-24121. O. S. Clarke.

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PETERBOROUGH TECHNICAL COLLEGE

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Applicants should have a knowledge of BASIC and preferably COBOL together with experience in Business and Data Processing.

Salary £5034-£8868 (Burnham Technical Scales) Commencing salary will be determined by experience and qualifications.

Application forms and further details may be obtained from The Principal, Peterborough Technical College, Park Crescent, Peterborough PE1 4DZ.

Closing date 25th January, 1982.

(8033)

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DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

LECTURER II/SENIOR LECTURER IN COMPUTER SCIENCE

Salary: £6,482-£12,141 p.a. inc.

Applicants should have substantial experience in use of computers in industry, commerce or the public sector. The duties of the person appointed will include responsibility for the placement in external organisations of the Department's sandwich degree students.

Further particulars and application forms are obtainable from:

The Personnel Officer
The Polytechnic of Wales
PONTYPRIDD
Mid Glamorgan
CF37 1DL

Telephone: (0443) 405133 ext. 2021

CLOSING DATE: Friday, 22 January, 1982.

(8012)

EXCELLENT CONTRACTING OPPORTUNITIES

Our immediate domestic and international consulting needs are detailed below. If you are of a professional disposition, skilled and dedicated, and wish to join our growing permanent or contract staff, please contact us in respect of these and future opportunities.

International

MARK IV	Consultants & Programmer/Analysts	New York Africa;
SYSTEM 34	Programmer/Analysts	New York
COBOL, CICS	Programmer/Analysts	New York
FOCUS	Programmer/Analyst	New York

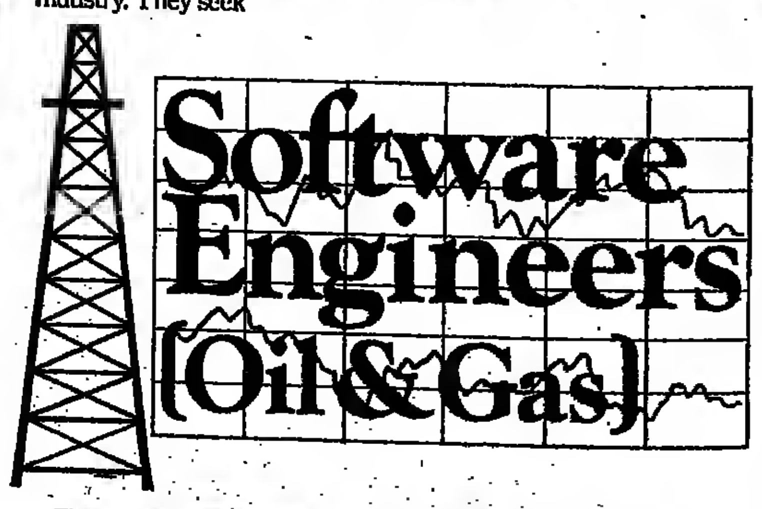
U.K.

MARK IV	Programmer/Analysts	London; Home Counties
HP3000	Programmers	London
COBOL, IMS/DB	Programmer/Analyst	London
COBOL, CICS	Programmer/Analyst	London
ICL System 10	Programmers, Analyst/Programmers	Home Counties
SWIFT	Designers/	Home Counties
EXPERIENCE	Analysts/Programmers	
ADABAS	Designer, Programmer/ Analysts	London
FILETAB	Programmer/Analyst	London
COBOL, UNIVAC 1100	Programmers	London; Essex
PRIME, FORTRAN or COBOL	Programmers	Home Counties; London

For more information please contact:
Resources Department
TANGENT COMPUTER SERVICES
102/106 South Street
Romford, Essex
Tel: Romford (0708) 750201
(24-hour answering service)

(8045)

Our client is a leading, dynamic and expanding BRITISH wireline logging and Geophysical Data Processing Company providing high quality and highly sophisticated services to the Oil & Gas Industry. They seek



These are first class, unique career opportunities to join a forward looking Company at an exciting time in its development.

Our client is looking for graduate engineers who can research, develop and apply, state of the art electronics and advanced on line computational techniques in the design of innovative software systems and instrumentation demanded in the exploration and production of energy reserves.

An attractive and generous salary goes with each appointment which will be based in HAMPSHIRE or LONDON depending upon qualifications.

You could be part of the team if you have experience in any of the following:—

Analogue/Digital Techniques.
Ultrasonics Data Transmission.
Real Time Applications Software.
Microprocessors Instrumentation
Project Management.

To apply please write in confidence with full career details to

(8040)

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DIRECT LINE 01-661 0121

WANG

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West London Base **to £10,000 + Car**

Wang (UK) Ltd's leading position in office automation combines its highly successful data processing, word processing and communications products and systems. Substantial investment in product development has resulted in continual major product enhancements including the recently announced WANGNET, our local area networking system, and Digital Voice exchange.

As part of this development an exceptional opportunity has arisen for a Customer Support Specialist to support Wang's Dealer Network for the Wangwriter product. This is a senior position and will involve assisting dealers in developing their own product knowledge and support capabilities evaluating the capabilities of new Wangwriter software announcements and training dealer support personnel accordingly.

An element of sales support is also involved and applicants must have sufficient communicative skills to assist in presentations and demonstrations to potential dealers.

A sound knowledge of WORD PROCESSING is required and a combination of the following skills and experience will be advantageous:

- Experience of Shared Logic Systems.
- Sales/Customer Support Experience.
- Experience of Micro's and the CP/M operating system.
- Experience of BASIC Programming.

The position is based in West London but the majority of the successful applicants time will be spent in the field. Besides the highly competitive salary, benefits include four weeks holiday, pension, life assurance, BUPA and stock purchase schemes.

If you are a self starting individual with energy, ambition and ability to succeed within a growth environment then telephone or write to Kevin McCourt quoting reference 5621.

Lloyd Chapman Associates

125, New Bond Street, London W1Y 0HR 01-499 7761

VM Implementation

Holland c.£2,250/month

We are seeking an experienced Systems Programmer to implement VM/SP at an OS/VS1 installation in the Netherlands. VM will be run both on a production 4341, with the operational VS1 system as a virtual machine, and on other 4341's to support graphics terminals using the CADAM package under CMS. Applicants should have a good all-round knowledge of VM, and must be prepared to take on all tasks associated with installing VM/SP in both these environments.

CICS-IMS/DB Development

Berkshire c.£2,000/month

We are seeking an Analyst or Senior Analyst/Programmer to perform the technical design of an Order Processing System from an existing functional specification. The initial assignment period is three months but, after user approval, the successful applicant will be required to see the project through to implementation by the end of the year. Candidates should have detailed design and programming experience of at least one on-line project using CICS and a database. Knowledge of PL/1 would be an advantage, as would some supervisory experience.

CDS is a 45 strong Anglo-Swiss Consultancy specialising in the following areas: MVS, VS1, VM, DOS(VSE), ACF, IMS/VS, CICS/VS.

- Systems Programming — MVS, VS1, VM, DOS(VSE), ACF, IMS/VS, CICS/VS.
- DB/DC Application Development — Particularly IMS DB/DC, DL1 & CICS.

For further details of the above positions or for an informal discussion on future European or UK assignments please contact us at our UK offices or on our private numbers at evenings/weekends. Brian Bidston 03446-5386 or Jim Shaw 0990-24546.

cds The IBM System Software Specialists

CDS Ltd, 67–73 Park Street, Camberley, Surrey GU15 3PE. Tel. 0276 26845 Telex 858062

GRADUATE SOFTWARE ENGINEER

We require a young graduate preferably aged under 30, with a solid electronic engineering background with experience in the following fields:

Electronic digital display
Microprocessor systems 8 + 16 bit
Software experience with: Unix, C. Pascal, Assembler
Real-time systems
Simulation + graphics
Experience in both high + low level languages

The successful applicant must be a highly motivated individual, and will join a team involved in design of new equipment based on microprocessors. The R + D activity is based in Ledbury, Herefordshire.

Initial salary dependant on experience with good opportunities for advancement. Write, enclosing CV to: W. A. Clearwaters, Micro Control Technology Ltd., 6 New Street, Ledbury, Herefordshire.

(8048)

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logistix Logistix Recruitment Limited 10 Grenville Place, London SW7 4RW

Telephone 01-373 3063

Jnr. C. and UNIX Programmers

Greater London : Salary to £9K

An internationally recognised supplier of Hardware and Software Systems has several requirements within a newly-created operating division. Suitable respondents, preferably aged 22-27 years, should hold at least one numerate degree and be fluent in C, BCPL or PASCAL. Those who can combine this fluency with an understanding of Assembler will be favourably considered. Of additional interest will be those who have current or very recent direct involvement in a systems development role on any recognised 16-bit microprocessor running under UNIX or CP/M. Although the work content is essentially in-house, at least upon appointment, a degree of mobility is essential for client visits to national and international sites during implementation and subsequent live running. Ref: L/1/H

Technical Instructors

Thames Valley : Salary to £11K

As a result of recent sales successes, a recognised supplier of Microprocessor-based products is seeking several Technical Instructors and Lecturers to supplement its existing training department. It is a prime requirement for all candidates to hold at least one numerate degree and additionally, to have post-graduate experience of three to five years with a Systems Supplier or Microprocessor Development House. Ideally, candidates should offer hands-on experience in the areas of software interfacing, drivers, protocols and diagnostics whilst for certain positions an appreciation of 8085/6/8 hardware would be especially welcome. Naturally, good oral and written skills are imperative in conjunction with an easy-going and business-minded personality. Ref: L/1/G

Systems Design

Herts. : Salaries to £10.5K

A leading supplier of hardware and software systems, with headquarters in rural Hertfordshire, has an immediate requirement for additional Systems Engineers. Suitable applicants will hold a numerate degree and offer at least two years' industrial experience in one or more of communications, networking, firmware design and microprocessor technology. It is essential that you possess good written and oral communication skills and enjoy customer contact. As a member of the Systems Department you will be involved in the design and installation of hardware and systems software. Particular fields of activity will include data-communications, networking and terminal interface and logic/circuit design. Ref: L/1/F

CAD/CAM Sales & Support

Home Counties : Salary to £16K

A leading supplier of CAD/CAM systems to the process, manufacturing and electronics industries is actively recruiting for its Home Counties and Midlands operations. A number of diverse positions are available. For all positions you should preferably be aged 25-30 years and offer a minimum of three years' practical engineering design or manufacturing experience. As a Sales Executive or Marketing Engineer you should currently be employed within a direct sales role. Work content will include the demonstration of software and graphics system to both prospective and existing customers at engineer and director level respectively. Those already working within a Technical Support role should be fully au fait with the definition of potential user requirements and be accustomed to the resolution of on-site operational problems. Candidates are encouraged to apply if they are already resident within the West Country, South Coast, Northern Home Counties and West Midlands. Ref: L/1/E

Fortran Programmers

N. Home Counties : Salaries to £9K

A long-established engineering systems supplier based in the Northern Home Counties has an immediate requirement for additional Fortran Programmers. Suitable applicants will have a minimum of six months' post-graduate programming experience in a real-time minicomputer environment. A knowledge of CAD/CAM techniques, whilst not essential, would be considered very useful. These positions represent outstanding opportunities for applicants who wish to be involved in the design and development of complete systems in the engineering industry. Particular projects in which the company is currently involved are Mechanical Drawing, Graphics, Production Control and I.C. Design. Ref: L/1/D

Real-Time Programmers

London/E.E.C. : Salaries to £16K

Our client is a Systems and Software House with its headquarters in Central London and subsidiaries based in several European locations. Its excellent reputation within real-time applications has led to the acquisition of many lucrative projects in London and E.E.C. countries. Consequently, additional Real-Time Programmers are required. Suitable candidates will have a minimum of two years' programming experience in one high-level language, preferably FORTRAN or PASCAL, in addition to an Assembler. Whilst knowledge of particular hardware is not important respondents with exposure to DEC PDP11, or any microcomputer, will be especially favoured. Applications areas of interest will be Process Control, Message/Packet Switching or Data Communications. Ref: L/1/C

Digital Engineering

Thames Valley : Salaries to £15K

Several vacancies for Senior Project Engineers have arisen in the Research and Development facility of a leading computer manufacturer. Suitable applicants will possess an H.N.C. or, preferably, a degree in Electrical and/or Electronic Engineering, followed by at least four years in industry. Experience should have been gained in the fields of digital design and engineering with a strong emphasis on circuit and logic design. An ability to program in PASCAL, and a knowledge of the internals of at least one operating system, whilst not obligatory, would be very welcome and, also, will attract a salary premium. It is, however, essential that all respondents have had experience of managing a small project team. Ref: L/1/B

Communications Engineers

Bedfordshire : Salaries to £15K

A number of Communications Engineers from Programmer to Project Leader level, are required for the Research and Development facility of a U.S.-owned computer manufacturer. Suitable applicants will, preferably, be currently employed in a development capacity with either a systems house or manufacturer. Particular technical skills should include at least two years' experience of a high level language, preferably PL/1, PASCAL or CORAL, in a data communications or networking environment. For the more senior positions it is essential that respondents are familiar with X25 protocolling techniques and also have been a senior member of a design team developing at least one major system providing shared communications functions. Ref: L/1/A

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هكذا من الأصل

BERKSHIRE/WEST LONDON

2+ YEARS' IBM EXPERIENCE?

SYSTEMS PROGRAMMERS
SENIOR PROGRAMMERS
ANALYST PROGRAMMERS

£9,000-£13,000 + CAR

We are retained by one of the world's largest independent suppliers of packaged application software to recruit IBM experienced computer professionals for their technical support group. Work will involve pre and post sales support on technical aspects of the company's range of financial packages. This will include system installation and demonstration on clients' machines, together with development of systems to cater for the needs of this expanding market.

IBM COBOL programming experience is essential and for some positions, experience of CICS, DL/1 or IMS would be an advantage.

Apart from the right technical background, we are looking for professionals who enjoy client and prospect contact and excel in this area. Mobility is required and a driving licence is essential. For those who enjoy overseas travel, opportunities exist to work on short term assignments in the U.S.A. and the Middle East.

These are challenging and exceptional career opportunities for high calibre and ambitious computer professionals who will be rewarded with a high salary, company car, BUPA, annual bonus and excellent pension scheme.

For further information, please contact MARK IRENS quoting reference CW 0701/1

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WILLESDEN N.W.10

ANALYST TO £8,000

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A division of a major U.K. manufacturing/engineering organisation is seeking an Analyst to be directly involved in the implementation of applications software packages on their newly acquired CMC REALITY mini computer.

This is a ground floor opportunity for a self-motivated graduate with 1-2 years' manufacturing systems experience to implement the above systems including training, testing, specification of additional requirements and installation of the systems into a working environment.

Although not absolutely necessary (as training will be given), it would be advantageous to have some experience of database, IBM 3033 or CMC REALITY equipment and O&M procedures.

For further information, please contact MARK IRENS – Advising Director quoting reference CW 0701/2.

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Please telephone BOB BOWER – Advising Director for details.

Ref. CW 0701/3a

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BASIC c.£9,000. QUOTA c.£18,000 CAR

We are currently seeking successful sales personnel for a wide variety of companies in the industry from manufacturers to bureaux and "turnkey" houses.

If you are seeking a better position, please discuss the situation with us, we may well be able to help and will certainly advise.

Ref. CW 0701/3b

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COMPANY CAR ETC.

Our Clients are poised to take the OEM/Distributor market place by storm with their range of disk drives and printers. Already Europe's largest supplier of computer systems, they are ideally placed to capitalise on this new operation and have already an impressive order book.

They need another Sales Executive to join their successful team. The rewards will be excellent for the right person who should have:

- ★ A strong technical/engineering background in current disk technology.
- ★ A sound understanding of the OEM/Distributor market place in U.K.
- ★ A successful record in sales or support with the ability to move into sales.

Please telephone BOB BOWER – Advising Director for details.

Ref. CW 0701/4

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Timesharing Systems Development

DEC-BASIC

City of London **c £11,000**

In the highly-competitive world of timesharing bureaux, our clients have proved remarkably successful – a publicly quoted company with sound financial resource, they have achieved a formidable 5-year growth record, averaging in excess of 200% per annum. In doing so, they have earned an outstanding reputation for providing first-rate timesharing services on a sophisticated range of DEC hardware, to be augmented by additional VAX machines early in 1982.

In line with such expansion, they now wish to appoint two experienced computer professionals to senior positions within the company, as follows:

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You will play a leading role in the design, development, implementation and maintenance of highly sophisticated packaged applications, from analysis of users' business requirements through to assessing, controlling and assisting the programming effort in implementing the appropriate solution.

Ideally in your mid-/late-twenties, you will have gained at least 3 years' experience in the design and development of systems in BASIC for DEC equipment. In addition to proven skills in both analysis and programming, you should have a sound technical appreciation of on-line/database-orientated applications; in-depth knowledge of RSTS, VMS or RSX is essential. Above all you will display strong personal qualities and management potential, and the ability to liaise with clients at senior level.

Candidates for both positions should possess sound academic qualifications and a high degree of innovation and self motivation. **Career prospects are excellent** within a company noted for salary reviews and advancement strictly on merit and for young, flexible management.

To discuss these opportunities in more detail, and in strictest confidence, contact Barry Latchford on the number below, or on Newick (STD 082572) 3197 after 7.00 p.m. Alternatively, write to us as advising consultants quoting ref. 286/7.

(8027)

BL

Barry Latchford Associates

Tel: (0444) 59815/6/7

Blair House, 7 Hazelgrove Road, Haywards Heath, West Sussex RH16 3PH

IBM COBOL PROGRAMMERS

YOUR career can really "Take-off" in 1982. Our client, already recognised internationally as market leaders in their own dynamic environment, are URGENTLY seeking to fill EIGHT new programming positions created by exciting new European expansion.

An impressive variety of hardware awaits you, including IBM 4341/2, Honeywell, Systime & Prime. Professionalism is the keynote of our client's management. Opportunity for progression is available to ALL staff.

THE REQUIREMENT
A MINIMUM of ONE year's programming on IBM with knowledge of DOS, CMS, or VS1 is ideal, but consideration will be given to other experience.

THE LOCATION
West London, ideally situated for Central Line & Car travel.

THE REWARDS
Salaries between £6K..£10K
Work in Italy in 1982, should you wish.
Stability & Stimulation,

TIMESCALE
These vacancies are IMMEDIATE

ACT NOW: Telephone Ben Levene, Computalink Ltd., Delaport House, 57 Guildford Street, Luton., Beds.

LUTON (0582) 28784 Office hours.
LUTON (0582) 454235 " "
WATFORD (0923) 29956. Any other time.

COMPUTALINK Ltd
International Recruitment Consultants

(8014)

We are expanding and require additional programming staff:

Wyeth Laboratories is e major international pharmaceutical company with a sound record of sustained growth and development in the fields of medicine.

In keeping with a company in the forefront of the industry a major expansion is taking place in Data Processing and an IBM 4300 series computer has just been commissioned. A new office extension including a computer suite is under construction. Wang and IBM word processors are already in use and an electronic PABX will be installed in the neer future.

To progress further we intend to develop new techniques based on CICS and TOTAL and wish to appoint the following additional experienced personnel.

Team Leader-Application Programming (Reference EDP/1)

A Programmor with severat yeers' experience of BAL end PL/1 is required to leed e team in commercini applicelions work. Candidales should also have some knbwledge of lhe abovo TP monitor and databesa. The ability to feed and direct project groups is essential

Analyst Programmer (Reference EDP/4)

We plen to devalop computerised designs to enalyse scientific data from clinical trials end in order to do this we are looking for an Anelyst Programmer with knowledge of PL/1 to provide expertise in the use and capabilitias of SAS.

Initielly the person eppointed will work closely with our medical statisticians and clinicel research officers end may eventually be involved in the extension of SAS feclilies to our commercial activities.

Programmer (Reference EDP/5)

A PL/1 Progremmer is required to provide progremming support for the new clinical research epplicetions team.

Cendidetes must heve e sound knowledge of PL/1 and CICS. Some previous experience of statistical epplicetions would be useful.

If you ere interested in any of these vecencies pleese apply to:

Mrs. J. Andrews, Personnel Officer, Wyeth Laboratories.
Huntercombe Lane South, Tapfow, Maidenhead,
Berkshire SL6 0PH.
Telephone: Slough 28311 Extension 264.

Wyeth Laboratories

(7937)

ICL PROGRAMMERS AND ANALYSTS

Up to £10k and £12k

If you heve or want on-line experience come on boerd Britain's most progressive ferry company.

Townsend Thoresen, pert of the European Ferries Group, hae been voted Britain's top ferry company for the third year running. This success has led to e major expansion of the compeny's computer activities, baeed upon e.lerge ICL 2900 series installation in Dover, with micros in eeveral locatione.

An integrated on-line reservation system is operating with terminals throughout the U.K., and in Ameterdem, Brussels, Dusseldorf and Peris. Furthermore, e major on-line system is being developed to include inter-active Viewdata and Prestel Geteway.

As a result we have these important vacancies in Dover for:

SENIOR ANALYST

To be responsible for the design of major on-line systems in an ICL environment. You must have appropriate experience and be able to work without supervision. Overseas travel is a distinct possibility.

ANALYST

You must have an ICL background and considerable experience in user-liaison.

SENIOR PROGRAMMER

Five to ten years ICL Cobol experience is desirable with some exposure to on-line systems. You must be able to work without supervision and assist in the preparation of programme specifications.

PROGRAMMER

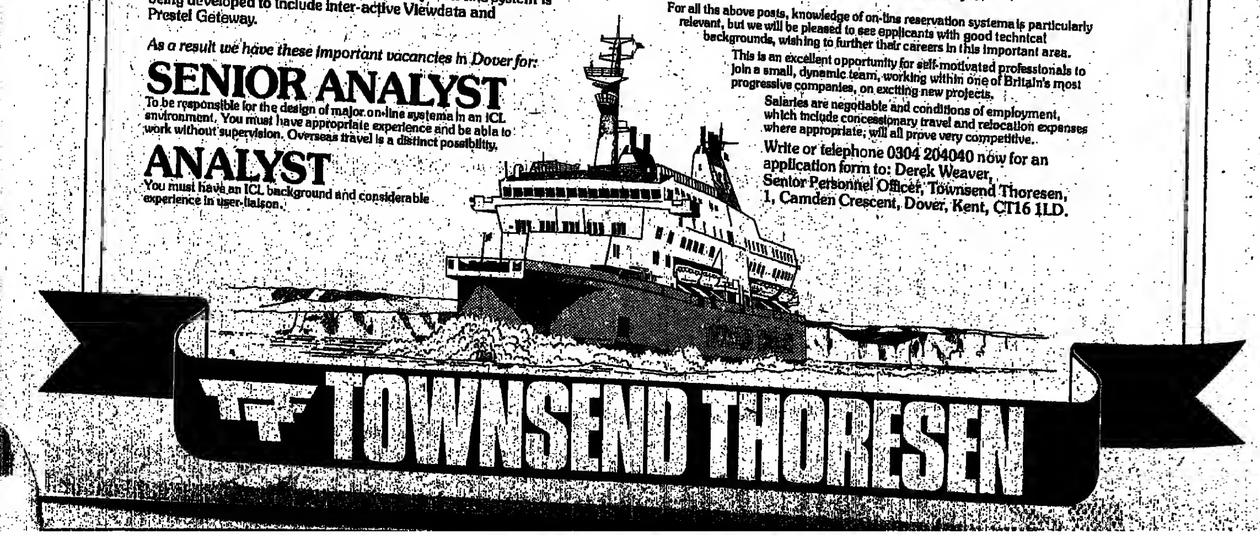
Minimum 18 months Cobol, ICL experience is required and if you have TABN and on-line experience, we'll be even more interested in you.

For all the above posts, knowledge of on-line reservation systems is particularly relevant, but we will be pleased to see applicants with good technical backgrounds, wishing to further their careers in this important area.

This is an excellent opportunity for self-motivated professionals to join a small, dynamic team, working within one of Britain's most progressive companies, on exciting new projects.

Salaries are negotiable and conditions of employment, which include concessionary travel and relocation expenses where appropriate, will all prove very competitive.

Write or telephone 0304 204040 now for an application form to: Derek Weaver, Senior Personnel Officer, Townsend Thoresen, 1, Camden Crescent, Dover, Kent, CT16 1LD.



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We've over 50 urgent client requirements and need business analysts, systems analysts, technical analysts, designers, consultants, analyst/programmers, application programmers, systems programmers and technical support staff.

We'll discuss assignments thoroughly with you, we'll pay you weekly, we'll give you the security of our legendary People Package which includes new benefits for 1982.

..from a new team..

We've a new management team here at Computer People North. Chris Lancashire, who built up our company over the past 5 years is now helping to get us established in California, heading up our new Los Angeles office. In his place we have the dynamic team who have been instrumental in trebling the turnover of Computer People Midlands: Lee Walkinshaw and Derek Batchelor. A new team with a new style.

In addition to consolidating our presence in virtually all major contract staff users in the north, we are rapidly introducing many new clients to the concept of contracts resourcing.

We're a member of the VLI group – the biggest in the business. But we're only big because we do a better job for our clients and give a better deal to our contract staff. Come along to our offices on Thursday, 21st March and talk to us about a better deal for **you** in '82.

Walk in between 5 and 9pm. We'll welcome you with a glass of wine and give you the facts about quality assignments suited to you. If you are unable to attend, send the coupon below or telephone and ask for **Debbie Bates, Bill Simpson, Roger Pond-Jones, or Derek Batchelor on 061-491 1666.**

..in the North.

Mail this coupon (no stamp) to **FREEPOST, Computer People North, Sovereign House, Stockport Rd. Cheadle, Cheshire SK8 2YD.**

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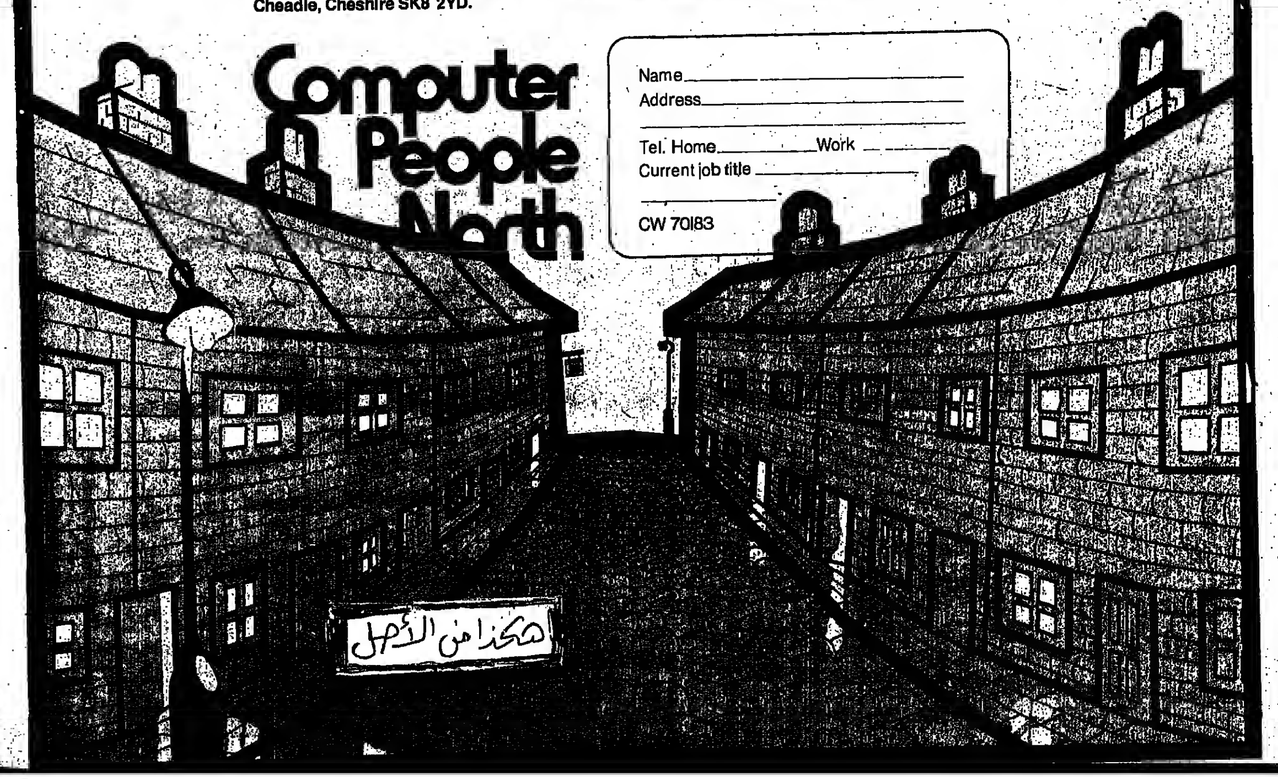

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★ OPERATORS ● JCL WRITERS ★

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★ PHONE US FROM JAN. 4th ON OUR NEW NUMBER AND AUTOMATICALLY QUALIFY FOR OUR **CHAMPAGNE** COMPETITION.

(80391)

KPG

ARABIAN DATA SYSTEMS

Saudi Arabia

ARABIAN DATA SYSTEMS (ADS) the leading Computer Services Company in Saudi Arabia is expanding one of its Facilities Management Centres to a multi-mode IBM 370/30XX MVS/JES 2 environment including MAS, NJE and MSNF. ADS offers an attractive remuneration package which allows for substantial financial accumulation, free housing, medical insurance, transportation, etc. The expansion has resulted in the following vacancies:

Systems Programmers
£18,000-£24,000 tax free + Benefits

To provide installation support on MVS/JES 2, MAS, NJE also planning, installation and tuning. Applicants must have extensive software experience with at least two years working on one of the above products.
To provide installation support on ACF/VTAM, ACF/NCP and MSNF. Minimum requirements are extensive MVS experience plus recent experience directly related to the above products.

Performance Measurement/Capacity Planning Consultant
£18,000-£24,000 tax free + Benefits

To provide performance measurement and capacity planning in an MVS/JES 2 environment. Applicants must have extensive systems programming experience, and have worked in a measurement and tuning capacity.

Data Services Manager — **I/O Production Control**
c £19,000 tax free + Benefits

Responsible for the building-up and management of a substantial end-user diverse Data Entry service and related user interface sections with local and remote units (expected staff establishment c30).
Applicants must have had supervisory experience of more than one data entry system, a sound background in IBM operations to at least shift leader level, and OS/VS1 or MVS exposure.

Programmer/Analysts
£15,000-£20,000 tax free + Benefits

To work within financial management, administration and database development teams. Applicants must have extensive IBM OS/VS1 or MVS programming experience and have worked in a development environment using COBOL, PL1 or Assembler.

For further information telephone Jenny Dalrymple-Hay or Ian Murray-West on 01-493 2847 (day), or respectively Beaconsfield (04946) 4579, Milton Keynes (0908) 563415 (evenings/weekends), or write quoting ref: 8886.

DALROYD & PARTNERS LTD, 4 HALF MOON STREET, LONDON W1

ANALYST PROGS.
BASIC
c.£8,000 P.A.

This small software house, based in London, requires a BASIC programmer with two years' plus experience, to join them as an Analyst Programmer working on Business Systems.
This is an excellent opportunity for a young person to gain good systems knowledge, whilst working on development projects for small businesses.

ANALYST PROGS.
COBOL DOS/VSE
LONDON
c£12,000 P.A.

We have an unusual situation here where a major group has recently formed a new computer bureau/software house to service its group requirements as well as external companies' needs.
Based on the East London/Essex borders, the Company requires an additional person, aged 25-30, to join them with responsibilities for Design/Programming on major development projects. The experience we require is four/five years' programming in COBOL plus design/analysis experience with DL/1 and CICS. Also it should be mentioned that whilst it is not intended to appoint managers at present, opportunities do exist for team leading type responsibilities, and certainly real promotional chances for the future.
Lastly, the Company has bought IBM 4300 equipment, and all the systems being developed will be On-Line/Real Time. Also being part of an international group, opportunities exist for overseas travel, especially Germany.

FREELANCE CONTRACTS

PROGRAMMERS		
PL/1 DOS/VSE Structures	W London	6-12months+
PL/1 OS	N London	6 months+
PL/1 IMS/DB CICS	London	6 months+
BASIC MICRO (T.B.C.)		3 months+
COBOL DOS/VSE TOTAL CICS	W London	12 months+
CPG	NW London	3 months+
COBOL CICS/DL1 (Senior)	Middlesex	3 months+
COBOL VME/B Structured	W London	6 months+
COBOL DOS/VSE CopeX	S Coast	3 months+
COBOL OS/MVS JSP	W London	6 months+
RTL 2 RSX(11)M (or MACRO)	W Country	6-12 months+
ANALYST PROGRAMMERS		
MACR 11 RSX(11)M (£450+)	W Country	6-12 months+
COBOL IMS DB/DC	C London	6 months+
COBOL DOS/VSE Payroll	S London	4 months+
COBOL RAMIS	C London	6 months+
ANALYSTS		
Analysts IBM Financial	S Coast	6 months+
Business Analysts IBM	N Cambridge	3-12 months+
RAMIS ANALYST/DESIGNER	C London	6 months+
Financial IBM	N London	6 months +
IMS Consultant	N London	6 months+
SAUDI ARABIA		
PL/1-JCL Programmer Analysts		6 months
Mk IV Programmer Analysts		6 months
Training Consultant (IBM) PL1		6 months
Consultants		6 months
FORTRAN (IBM) OS/MVS Programmer Analysts		6 months+

We require additional staff for the above posts. Our rates range from £600 to £960 p.w. plus accommodation, air fares and living allowances. If you are interested, please respond urgently.

CONTACT Keith Duncan – any evening up to 10 p.m. on: 08926-6548

(80611)

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Sales Executives
London/Southern Region
c£14,000 Guaranteed
Company car — On Target c£16,000+

For more than 10 years we have provided the ultimate resource in computer services.

TERRITORIES: Include WI and City areas.

Established for more than 10 years, we are now one of the leading and most successful International Computer Services Organisations. Since our inception we have achieved consistent growth, exceeding all projections. 1982 will be no different; as part of a major European expansion we have decided to expand our highly successful sales team in the United Kingdom.
We provide and offer the ultimate resource by way of a broad range of services, recognised as industry leaders. With yet more new products to be introduced in 1982, we believe that we will not only have achieved leader status, but a level of excellence second to none.
We are seeking the following:-

- **Highly successful sales executives from the computer services or software environment, with proven track record. Desirable experience would be in the areas of finance or financial modelling.**
- **Of particular interest are the highly lucrative territories available which are expected to yield in 1982 an extremely high income for those who are successful.**

Prerequisite requirements are a good level of education, age 25/35 and resident within the London or Southern Region.
In return, we offer a remuneration package comprising a high base salary, commission and initial negotiable guarantee yielding first year earnings of not less than circa £14,000, where on target earnings would be c£16,000. A company car, full BUPA and a comprehensive training both in the UK and USA are also included, together with other very attractive incentives. For the ambitious and subsequently successful, we offer outstanding career opportunities.
For further information and immediate confidential interview, contact Chris Fry on 01 935 0671 (24 hour answering service) or 05827 2354 evenings and weekends or Paul Pearce on 021 236 3781 or 021 308 4908 evenings and weekends.

SCR
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Birmingham 021-236 3781 35-37 Great Charles Street, Queensway, Birmingham B3 3JY.
Manchester 061-833 0427 Blackfriars House, The Parsonage, Manchester M3 2JA.
Brussels 010 322-640 7161/71 Avenue Louise 327, Boite 4, 1050 Bruxelles.
Amsterdam 010 3120-760947 Willemsparkweg 92, 1071 H.M. Amsterdam.
Specialist Computer Recruitment Ltd

PROGRAMMERS — **to £11,500**
HP COBOL
Senior and junior programmers are required by sites in C. London and the Home Counties. Applicants should have from 1 to 4 years' experience preferably gained in an H.P. environment. These positions are with progressive companies offering excellent career prospects and a variety of perks including mortgage subsidy, travel allowance, etc.

PROGRAMMER — **c £9,000**
ICL COBOL
Expanding City based installation seeks a programmer with around 2 years' Cobol experience gained on the ICL 2900 range. The preferred applicant will have both on-line and database experience with a good commercial background. The company is shortly installing new hardware and can offer excellent career prospects and perks including a substantial bonus scheme.

PROGRAMMER/ANALYST — **c £9,500**
HONEYWELL
Financial installation in C. London requires a programmer/analyst to complement their expanding development team working on new systems for their recently installed Honeywell L6 machines. Applicants should have around 3 years' programming experience together with some systems exposure. Knowledge of screenwrite would be advantageous. As well as a good career path the company offers an outstanding benefits package.

SYSTEMS PROGRAMMER — **c £11,500**
BURROUGHS ALGOL
A large company whose interests are well known are currently looking for an experienced systems programmer to join their specialist team on a wide variety of applications. A minimum of 3 years' experience utilising MCP and datacomms with the emphasis on datacomms is required with extensive use of algol. Any knowledge of cobol would be useful. A good relocation package is offered to this site in Surrey. This requirement is urgent.

PROGRAMMER — **c £8,000**
NCR COBOL
International financial organisation requires a programmer with NCR cobol and IMOS experience. Any exposure to IBM RPGII would be useful. This is an excellent opportunity to join a rapidly expanding D.P. department and become involved in a variety of systems and hardware with the possibility of some overseas travel. Usual banking perks are offered.

PROGRAMMER — **£8,000**
BASIC +
Bureau based in C. London is looking for a programmer with at least 18 months' Basic + gained in a DEC RSTSE background. Any accounting knowledge would be useful since the software package used is financial. This is an opportunity to join a small friendly but professional D.P. department.

SENIOR PROGRAMMER — **c £9,500**
HONEYWELL
Manufacturing company based in Middx. using a L64 DPS mainframe is currently seeking to recruit a programmer with 3 years' + Cobol experience. Knowledge of TDS is desirable as the company is expanding and adopting all the latest software releases. Perks are excellent and include 5 weeks holiday and 50% discount on company products.

OPERATIONS SUPER — **c £8,000**
HP 3000
A large company require an operations professional to look after their operations area. The successful applicant will have a proven track record and be able to demonstrate technical expertise and leadership qualities. Good knowledge of HP 3000 with extensive experience of modems, multiplexors and the DS software routines is essential. Assisted relocation where necessary.

SENIOR PROGRAMMER — **£9,500**
BASIC+/+2
At least 2 years' Basic+ with some Basic+2 is required by a large City user. As well as programming ability applicants must be able to manage junior staff. All programming staff are encouraged to gain early involvement with analysis since there are no analyst/programmers.

PROGRAMMER — **£7,500**
BASIC/VAX
A merchant bank based in the City has a requirement for a young and enthusiastic programmer to complement their existing team. Ideally the client would want VAX experience (having just taken delivery of a VAX) but would consider DEC RSX knowledge. Standard banking benefits apply.

PROGRAMMERS — **£8,500**
IBM COBOL
A first time user has recently installed an IBM 4341 under DOS/VSE. At the moment they are using a software house but wish to pull away and recruit their own team. The requirement is at least 2 years' IBM Cobol with some CICS experience. This is a ground floor opportunity for programmers who wish to move into systems programming as there is no in-house systems back up at present.

(7899)

Apex
Apex Computer Recruitment Ltd
59 Grays Inn Road, London WC1X 8TL
01-404 4821

DALROTH computer personnel

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A young, progressive, expanding and highly profassional consulting organisation.

The company offer the chance to work on a wide variety of projects which include:

Strategic studies for Government and Universities
Hardware Evaluations
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Complete DP information systems
Management Systems
Dealer distribution networks.

Expansion has resulted in requirements for staff to work in the following categories:

CONSULTANTS
ANALYST/PROGRAMMERS
PROGRAMMERS

Mainframe, mini and micro hardware is being used including IBM, H.P., DEC and Intel systems. Many applications involve the use of communications, database and other state-of-the-art techniques. To date, the majority of assignments have been in the Central and Eastern provinces.

For **Consultants** specific hardware background is less important than a wide experience and a keen analytical approach to problem solving.
For **Analyst/Programmers and Programmers** PL1 or COBOL and IBM Assembler or HP 3000 IMAGE and QUERY or DG or DEC Assembler is required.

Base salaries negotiable to c£20,000 plus allowances which include free furnished accommodation, education, medical, transportation (or company car), relocation, return air fares, etc.

For further information telephone Jenny Dalrymple – Hay or Ian Murray West on 01-493 2947 (day), or respectively Beaconsfield (04946) 4579; Milton Keynes (0908) 563415 (evenings/weekends) or write quoting ref: CW9887.

DALROTH & PARTNERS LTD, 4 HALF MOON STREET, LONDON, W1

PROJECT LEADER
c.£12,000 p.a.

Our client is engaged on a very large 5-year programme of systems development. The new systems are terminal-driven using a central mainframe computer situated some 40 miles north of London. Several new management posts are being created and I am looking now for someone to take charge of one of the largest projects, which is currently in the early stages of design.

You should have:
★ a minimum of 5 years' DP experience with at least 3 years on system design work
★ practical experience of terminal-driven accounting systems
★ some experience as a project leader

This is a permanent post in the Company's DP department. You will be based at the computer centre and will report to the Systems Development Manager. If you think this is your opportunity, act now and write or telephone me – Robin Aikman – in confidence, for an application form. Assistance will be given with removal expenses. Interviews will be in London.

Robin Aikman and Associates
8 Montenotte Road London N8 8RL
telephone: 01-340 9835

(8022)

CHIEF, APPLICATION SOFTWARE BRANCH

NATO Agency in LUXEMBOURG seeks candidates for position of CHIEF, APPLICATION SOFTWARE BRANCH in EOP DIVISION, supervising multinational staff of analysts and programmers.

Minimum qualifications include a university degree or equivalent education, three years of supervisory experience, a good knowledge of current developmental technology, especially structured design and programming, and an excellent knowledge of either English or French and a good knowledge of the other.

Applications are presently implemented on IBM 4341 hardware under DOS/VSE with Total, supporting supply, procurement and financial operations. Agency is moving progressively from centralized to distributed and batch to on-line processing modes.

Competitive salary is offered plus generous allowances. Candidates must be nationals of a NATO member country.

Detailed curriculum vitae must reach before JANUARY 11, 1982, the CHIEF PERSONNEL DIVISION, NATO Supply Center, B.P.13 – L-8325 CAPELLEN.

(7900)

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14 Windsor Road
Slough, Berks.

(7998)

SOUTH WALES CONSTABULARY

COMPUTER SOFTWARE MANAGER

£7,371-£7,875 p.e.

The person appointed to this post will have major responsibilities in all software aspects of a new Computer Assisted Despatching System for South Wales Constabulary currently ordered on a turnkey basis. The first processor is due for acceptance in April 1982.

Applicants should be educated to degree level or possess appropriate alternative professional qualifications. Previous experience of Level 0 Screenwrite and TPS in a responsible programming capacity is desirable. The person appointed to this challenging new post will join a small new Computer Department currently being set up.

Write or telephone for an application form to The Chief Constable, South Wales Constabulary, Computer Project, Police Headquarters, Cowbridge Road, Bridgend, Mid-Glamorgan; or telephone on 0656 66855, extension 361/2. Assistance with housing and relocation expenses will be available where appropriate. Closing date for receipt of completed application forms: February 1.

(7911)

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HARDWARE ENGINEERS	to £14K Surrey/East Anglia
SENIOR SYSTEMS PROGRAMMERS DOS/CICS/Tele processing	to £13K London/Home Counties
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TECHNICAL SUPPORT	to £12K Nationwide
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ANALYSTS 2 years Experience	to £14K East/West London
CONSULTANTS Banking/Insurance	to £20K London
SOFTWARE ENGINEERS Fortran/Assembler	to £10K Tewkesbury
PROGRAMMERS Cobol/IBM Assembler	to £12K East Anglia
SYSTEMS PROGRAMMERS	to £13K Croydon/Slough
GEOPHYSICISTS/SEISMOLOGISTS Scientific Programming Background	£Negotiable Worldwide

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DP PROFESSIONALS -DUBAI

We are a worldwide engineering and construction company and currently have two openings in our Data Processing Department in Dubai, UAE. Our hardware is an IBM 4331-02 mainframe with a linked four phase system 1V/90 for data entry and word processing. The 4331 is due to be replaced with a 4341 in mid 1982. Current software includes VM/CMS and DOS/VSE.

Systems Programmer

To complement existing software programming group and assist in the maintenance and enhancement of all IBM and third party software. Applicants should have at least 2 years' data processing experience and be familiar with IBM 43XX hardware and software.

Operations Support Analyst

To assist in the development and maintenance of all operational procedures and to act as liaison between development staff and DP Operations. You will also assist in the supervision of Operators, Data Entry Operators and Data Control Staff. Applicants should have had at least 2 years' experience of DP operations and, ideally, be familiar with analysis.

Both positions carry attractive salaries together with a full range of benefits including company furnished housing, free health and dental care, life and accident insurance and a non-contributory pension scheme.

Please send résumés including salary details to: Austin Knight, Ref CW/1, London W1A 1DS, marked for the attention of Ms C Jones.

McDERMOTT DUBAI McDERMOTT INC

HAVE THE WORLD AT YOUR FEET

SENIOR INTERNATIONAL DATA PROCESSING POSITIONS

INTERNATIONAL HARDWARE/SOFTWARE MANAGER $40,000

Based New Jersey – responsible for all Hardware and Software in ten installations worldwide. Experience to include IBM equipment, Telecommunications, Installation Planning, Data Processing Management. Will spend 30% of the time away from home.

IMPLEMENTATION SPECIALIST $30-$35,000

Must be French speaking – Systems & Programming background with CICS & DL1 – Will travel extensively managing installation of Major Projects.

SYSTEMS ANALYSTS/MANAGERS $35-$40,000

Based New Jersey, USA – Insurance background preferred. Determine worldwide system objectives and manage implementation of standard solutions.

Other local Systems, Programming and Management positions available in New Jersey, Sydney, London and other locations worldwide.

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Computing Services Association

Computer Personnel International
A DIVISION OF COMPUTER SYSTEMS INTERNATIONAL
30-32 Southampton Street, London W.C.2 01-836 6775

(8015)

COMPUTER SYSTEMS AND PROGRAMMING

Jordan
Salary £15,000 (tax free)

A qualified computer systems and programming person is required to train and develop further the business systems of a public utility in the Hashemite Kingdom of Jordan.

Present systems in accounting, billing, stores and payroll are operating on a Wang V.S. machine in language basic and COBOL. Future projects include automatic computer based management reporting systems and financial models.

The job will be to control all systems and programming work and the development of sound practices and documentation for all systems and programming work. Great importance is attached to the training and development of present staff. Knowledge of Arabic is not necessary as good English is spoken by the majority of senior personnel.

Jordan has a pleasant climate and is a very stable country offering many historical places of interest and archaeological treasures.

Terms of contract would be for one year, with an option to renew employment package, and includes free furnished accommodation, medical insurance and transport.

Interviews will be arranged in London.

Please send detailed c.v. to Brian Curtis, Richard Brooks and Partners, Gough House, 67 Eden Street, Kingston-upon-Thames, Surrey, together with contact telephone number if possible. Alternatively call him on 01-549 9882.

(8052)

WEST YORKSHIRE METROPOLITAN COUNTY COUNCIL

ASSISTANT PROGRAMMER/ANALYST

Post ref: ES 18002

A science or engineering graduate required to support the computer groups aims of providing cost/effective processing on two DEC VAX 11/780 computers and on IBM 3031.

A thorough knowledge of FORTRAN is essential and experience of computer graphics interactive programming and Software evaluation would be invaluable.

Commencing salary within the range £5662 to £6528 will depend on qualifications and experience.

Enquiries in respect of the duties of the post to:
MR. R. WEST
WAKEFIELD 367111 Ext. 3518

Applications welcome from disabled people.

Application forms and further details from the Directorate of Planning, Engineering and Transportation, Room 238, County Hall, Wakefield WF1 2QW.

To be returned by the 29th January 1982.

(8054)

URGENTLY REQUIRED

CONTRACTORS
VME/B, IDMS COBOL, T.P.M.S.
PROGRAMMERS/ANALYSTS

for North of England
Immediate start

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(8037)

PBS

CANADA

SYSTEMS ANALYSTS
SYSTEMS DESIGNERS
PROGRAMMERS

PCL-Braun-Simons Ltd. is a Canadian company with headquarters in Calgary, Alberta, providing a full range of project management, process design, engineering, procurement and construction services to the petroleum, petrochemical and oil sands industries.

The company is searching for computer management staff to implement a comprehensive programme covering all aspects of company operations. In the coming year, we are installing a VAX11/780 which will be used for CAD, Project Management systems and engineering calculations. The company is committed to maintaining a leading position in computing technology and has plans to bring in further hardware in 1983 and 1984.

These are permanent staff positions, and carry with them a full range of Employee Benefits plus a Deferred Profit Sharing plan. Relocation assistance will be provided to all successful candidates.

Successful applicants will have a minimum of five years relevant experience.

If this suggests the kind of opportunity and challenge for which you are searching please send us your application (ensuring that it includes your telephone number) care of:

B. Chamberlain
JPW Recruitment Advertising
66, Wellington Street
London WC2E 7BD.

(8028)

Contracts Division

To meet the demands of our existing clients for whom we recruit permanent staff we have now formed a Contracts Division.

We have assignments throughout the UK for:

Analysts

- most major hardware
- working on financial and accounting, order processing, stock control and production planning and control systems.
- good implementation experience required.

Programmers

- most major hardware
- COBOL, PL/1, ASSEMBLER
- varied applications
- software can include CICS, DL/1, MVS DOS/VS, VME, DME, GEO, GCOS, TDS, IMS etc.

We will pay top rates which will ensure that you get the FULL reward for your abilities.

Urgent Requirements

We need Systems Analysts for an urgent assignment in CAMBRIDGESHIRE to work on Financial Systems Implementation. You must have an IBM background including DOS/VS and knowledge of CICS and DL/1 would be useful.

Rate: to £500 per week

We will pay our contract staff the TOP RATES for their abilities. Find out how we can help you to earn more by telephoning us today.

Ivor Norton Management Services Ltd.
P.O. Box 63, Cardhill Tower House, Harrogate, HG1 1TS.
Telephone Harrogate (0423) 55311.
(24 HOUR ANSWERING SERVICE)

Careers in Scientific Computing and Electronic Engineering

CHALLENGING OPPORTUNITIES TO WORK ON:

- ★ Logic Design
- ★ Microprocessors
- ★ Real-Time Programming
- ★ Networks
- ★ Accelerator Control Systems
- ★ Microdensitometers

The Daresbury Laboratory, located in the North Cheshire countryside, is developing national facilities in the fields of computer networking, atomic, molecular and biological sciences, nuclear physics and computational science. The facilities include a Central Computing Service, a Synchrotron Radiation Source, a tandem van de Graaff accelerator for Nuclear Structure studies and a microdensitometer service.

The exploitation of these facilities requires first-class computing support. Computers at the laboratory include a CRAY-1S, NAS AS 7000, GEC 4000s, PDP-11s Perkin-Elmers and Data General Novas.

WE REQUIRE

COMPUTER NETWORKS

A software Engineer to join a small team developing communications software for interactive terminal, graphics and remote job entry access to the SERCs computing centres using microprocessor based communications hardware, and mini-computer packet switches and front-end processors. For further details contact Mr. E. Owen, Warrington 65000 ext. 218. (Ref. No. DL/775A).

ACCELERATOR CONTROL SYSTEMS

A computer control systems specialist to join a small team developing the control system for the Synchrotron Radiation Source (a 2 GeV Electron Storage Ring) and its experimental beam lines. The system is based on Perkin-Elmer 1S and 32 bit computers. Experience in programming in both assembler and high level languages (especially RTL/2), also in digital interface hardware and microprocessor applications, would be advantageous. For further details contact
Dr. D. E. Poole, Warrington 65000, ext. 210. (Ref. No. DL/775B).

DATA ACQUISITION (HARDWARE)

An Electronics Engineer to join a team working in the areas of data collection and computer communications. The successful applicant will be involved in the specification and design of computer interface and other hardware used in the data acquisition systems to keep these up-to-date with the increasing demands of scientific research. Experience of digital electronics work would be an advantage. For further details contact Mr. J. R. Alexander, Warrington 65000, ext 358. (Ref. No. DL/777).

MICRODENSITOMETERS

An applications programmer to develop programmes (mainly in FORTRAN) and to supervise day-to-day operation of the microdensitometer service which involves the digitisation of photographic images and subsequent computer processing for measurement, display and pattern recognition purposes. For further details contact Dr. M. Elder, Warrington 65000, ext 350. (Ref. No. DL/775C).

The vacancies are at Scientific Officer or Higher Scientific Officer level on the salary scale £5,176 to £6,964 or £6,530 to £8,589. Applicants should have a good honours degree (or its equivalent) in an appropriate discipline, but post-graduate experience in the relevant field will be necessary for an appointment to the higher graded posts. There is a non-contributory superannuation scheme, a generous leave allowance and a flexible working hours scheme. Assistance with removal expenses may be allowed in appropriate cases.

CLOSING DATE: 26th JANUARY 1982.

Please telephone Warrington 65000, ext 467 for an application form, or write quoting the appropriate reference number to:
The Personnel Officer,
Daresbury Laboratory, Science & Engineering Research Council,
Daresbury,
Warrington WA4 4AD.

(7387)

Daresbury
SCIENCE & ENGINEERING RESEARCH COUNCIL

RESEARCH ASSOCIATES

for Planning and Technological Development requires

SYSTEMS PROGRAMMERS

for its operations in SAUDI ARABIA/LONDON. Salary up to £23,000.

Research Associates, a leading computer Software Company in Saudi Arabia is looking for Systems Programmers with IBM experience to work on Systems development, facility management and consultation projects. Environment: IBM 4341, DOS/VSE, VM-CMS, CICS, VSAM, POWER, ON-LINE Interactive Data Base Applications.

Although the projects are in Saudi Arabia some of the work may be done in London. Generous benefits while working in Saudi Arabia – Free housing, medical care and insurance, transportation allowance and paid air tickets.

Please send CVs, telephone No. and application indicating earliest date of availability to:
Mr W. J. Ghandour, 60 Canterbury Court
South Acre, London NW9

(8043)

CAN YOU TEACH COMPUTING OR ELECTRONICS?

In a joint venture with Telford Development Corporation, the District of the Wrekin Council is establishing an Information Technology Centre comprising an Electronics workshop and Computing/Keyboard technology section. The Centre will provide training for local teenagers, advice and practical experience to industry and assistance in the development of new businesses.

There are opportunities for four Senior Supervisors to devise training schemes and instruct local teenagers in the following areas:

Computer Software
Computer Programming
Micro-processing
Basic Electronics

At least HNC qualifications are essential together with the ability to teach and to manage production in the workshops. Salaries will be in the range £8,190-£8,733.

There is also a vacancy for a Supervisor to instruct Trainees in the use and potential of

Word Processing
which will require relevant experience and knowledge of book-keeping and office systems. Salary will be in the range £6,501-£7,137.

All positions may require some evening instruction. Benefits include superannuation scheme and removal assistance where appropriate.

Application forms and further particulars are available from the Personnel Manager, District of the Wrekin Council, P.O. Box 213, Malinslee House, Telford, Shropshire TF3 4LO, returnable by January 18th, 1982. (Please mention PER).

Applications are welcome from both men and women

(8073)

PER Executive Selection

ZAKUM DEVELOPMENT COMPANY

Challenging opportunities to apply new technology to oil production.

An offshore oil company, responsible for development and future production of a major Oil Field in Abu Dhabi, United Arab Emirates, invites Arab Nationals for the following positions:

Systems Engineers (Ref 116RH)

To carry out Technical Relations with the Constructors, implementation and follow up of systems development and improvement of application Software.

Six years experience in programming and industrial processing. Knowledge of Software Data General (AOS, RTOS, RDOS) is an advantage.

Maintenance Engineers (Ref 117RH)

Hardware operation and maintenance, 3 to 5 years experience in Hardware maintenance. Knowledge of Hardware Data General (NOVA3, S130, S250) is an advantage.

Junior Engineer (Ref 118RH)

Testing of Equipment and Circuits, execution of Planned Maintenance tasks, detecting and replacement of faulty cards.

High Diploma or B.Sc. graduate in Electronics or Electrical Engineering. 0 to 3 years experience in Telesystem Maintenance. To be trained locally.

LANGUAGE
All applicants should be fluent in English.

SALARY and BENEFITS
High attractive salary plus substantial fringe benefits and good working conditions, resident in Abu Dhabi or working Offshore on rotation cycle.

APPLICATIONS
Handwritten applications in English with Photocopy of educational and experience certificates, Photocopy of Passport, and a recent photograph should be sent to:

HEAD OF RECRUITMENT & SELECTION,
ZAKUM DEVELOPMENT COMPANY,
P.O. BOX 6808,
ABU DHABI, U.A.E.

(7889)

LANGTON

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Salary to £16,000 plus generous benefits package.

Langton, one of the leading UK consultancy/systems houses, are looking for consultants to join a well established team working in the areas of office automation, viewdata, data bases and telecommunications.

Applicants should preferably have 5 years experience covering design of on line systems for minis, project management, and knowledge of data bases and/or telecommunications.

Good self presentation is essential.

If you would like to know more, telephone or write to Ian Balton.

LANGTON
Langton Information Systems Limited,
133 Oxford Street, London W1R 1TD. Tel: 01-434 1031

Freelancers...

...in the North of England who are available now or in the near future are invited to contact me, Peter Moore, to discuss a variety of interesting and rewarding assignments in the North West, throughout the UK and overseas.

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(7994)

PE

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(7981)

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Present Equipment: ICL 10/220
Department of ten staff

This expanding commercial application has earned a high reputation, and now seeks a Manager who can demonstrate the all-round ability to take it forward. An excellent remuneration package will be offered.

Please apply in writing to J. E. Peck, F.C.A., Financial Director, Edward Arnold (Publishers) Limited, Woodlands Park Avenue, Maidenhead, Berkshire, SL6 3LX.

(8002)

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Finance Department—Computer Services Division

PROJECT LEADERS

Two vacancies

PO1 (1-5) £8,991-£9,993

The mainframe currently operated is an ICL 1903T 128K Configuration running under George 2 (to be replaced in 1983 by an ICL 2955). Some 7502 facilities are used, together with a major on-line cash receipting system using DataSaab equipment. Additionally, a CMC Reality network is presently being installed to handle the Job Control requirements of the Authority's Direct Labour Organisation.

Applicants must have several years experience in systems design and have been responsible for the design and implementation of at least one major system.

Further details and application forms from: Chief Finance Officer, Metropolitan Borough of Sefton, P.O. Box 19, Bootle, Merseyside L20 3NQ. (Tel. 051-922 4040, Ext. 211). Closing date 18th January, 1982.

(8016)

Senior Programmer — name your own salary

The U.K.'s liveliest, fastest-growing holiday operator requires a very senior programmer to come and run the show.

You must be 100 per cent conversant with RSTS on a 1144, fast on your feet and capable of coping with the demands of our continued planned growth. Although located on the top floor of our building, this is very much a ground-floor opportunity. Fringe benefits include lunch and holidays in the Greek Islands.

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The Managing Director
SUNMED HOLIDAYS
455 Fulham Road
London, S.W.10
(15 mins.' walk from Earls Court Tube)

(7985)

CONTRACTS

Programmer with system development experience, on PDP/VAX System.
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This position is for a minimum 1 year's duration in the Netherlands and offering a salary c£27,000 p.a. + good air tickets arrangement.

Phone: 01-388 8679 or 01-487 5781
FOCUS COMPUTER SERVICES LTD.
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(8055)

SYSTEMS ANALYSTS & PROGRAMMERS

Cambridgeshire

INSTALLATION

4341 - DL/1, CICS/VS
8100 - DPPX, DTMS, COBOL

SYSTEMS DEVELOPMENT

FINANCIAL (Accounts Payable, Receivable, General Ledger, Financial Modelling).
ORDER PROCESSING
DISTRIBUTED DATA PROCESSING
STOCK CONTROL
PERSONAL COMPUTING
WORD PROCESSING

GENERAL

Our client is a major British company with an outstanding track record showing excellent growth in both turnover and profits.

The Head Office is located in a pleasant city with excellent education and leisure facilities. A wide choice of housing is available at prices well below the National average.

The general working conditions and career potential are we believe difficult to equal. In addition to a competitive salary our client offers a full relocation package together with an interest free bridging loan in appropriate cases.

SYSTEMS ANALYSTS

Systems Analysts are required at various grades to fulfil the requirements of our systems development plan. Two analysts are likely to be allocated to mainframe system development and others to Distributed Data Processing systems.

*SENIOR ANALYSTS **to £11000**

*ANALYSTS **to £9000**

Proven experience in the design, development and successful implementation of projects is essential. Candidates should have at least three years analysis experience preferably in an IBM installation. Additional experience of programming, and/or other management services functions would prove of use. (CW/8201).

PROGRAMMERS

Two programmers are required. These should have experience in an IBM installation using PL/1 or COBOL. Projects currently in programming make use of CICS/VS and DL/1. A Distributed Data Processing Team uses 8100 COBOL, DPPX and DTMS.

*SENIOR PROGRAMMERS **to £10000**

*PROGRAMMERS **to £8500**

At least two years relevant programming experience is essential. (CW/8202).

If you are self-motivated and confident of your ability to achieve results please contact Ivor Norton quoting the appropriate reference number.

Ivor Norton Management Services Ltd.
RECRUITMENT CONSULTANTS
P.O. Box 63, Copthall Tower House, Harrogate, HG1 1TS. Harrogate 66626
24 HOUR ANSWERING SERVICE (0423) 55311

An Imperial career under George III.

We are now launching the first part of a new life assurance system, running under George III/DME. This is a new ICL 2956 installation.

So it is with assurance that we offer four experienced persons the opportunity of careers with Imperial Life.

They will help us plan and establish a sound operational base. They will look beyond basic salary to the considerable benefits offered by a first class assurance company.

First Class Benefits.

Generous mortgage facilities. Season ticket and car loan schemes. Subsidised luncheons. Excellent life assurance and pension cover. Where necessary, assistance with relocation expenses. And all this in Guildford, one of the nicest parts of Surrey.

Operations Manager c. £11,000.

Responsible to the Department Head for establishing operational schedules and procedures, maintaining on line and batch production services, and managing approximately 10 operational staff.

This key appointment requires a minimum of 5 years' experience in computing operations, at least 2 at manager level, an in-depth knowledge of ICL hardware and software routines and George III preferably under DME. Exposure to VME/B would be an added advantage.

Emphasis will be on high professional standards and sound managerial experience.

Systems Programmer c. £9,500.

To generate, implement and tailor installation software for the operation of the mainframe and associated terminal network and to give technical support to the programming team. Substantial COBOL and George III/DME experience is essential together with a sound knowledge of ICL utilities and Drive based TP software.

Qualities of enthusiasm and drive, coupled with good communication skills are essential.

2 Shift Leaders c. £7,500+

Responsible to the Operations Manager for the effective running of the shift, including the training and supervision of junior operators. A two shift system will operate Monday to Friday (with some weekend working at the month end). We would expect 3 years' operating experience as senior operator/shift leader on ICL equipment (on 2900 mainframe). Sound knowledge of George III/DME at operational level is essential.

Please write or telephone for an application form or send a c.v. with details of age and salary to Eileen Wood at Guildford (0483) 71255.

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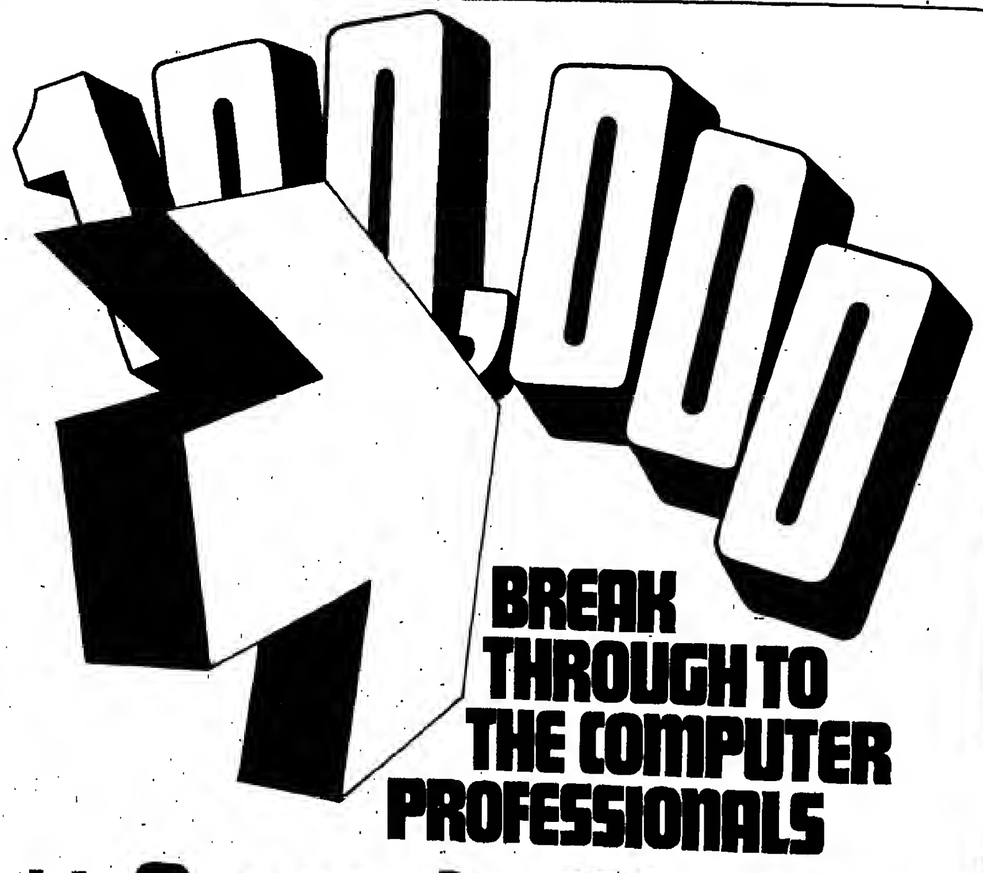
(A LIMITED LIABILITY COMPANY INCORPORATED IN CANADA IN 1896)
IMPERIAL LIFE HOUSE, LONDON ROAD, GUILDFORD, SURREY, GU1 1TA. GUILDFORD 71255
A MEMBER OF THE LAURENTIAN GROUP OF COMPANIES



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BIRMINGHAM Tel: 021-356 4838

ComputerWeekly

100,324 ABC Jan.-June 1981

LEARN AS YOU EARN - TRAINING IN CICS AND DL/1
NEW JERSEY, USA

Afia is an international insurance corporation with business in 80 countries around the world. Afia deals in 130 currencies daily, has 11 data centres all with IBM 370 or 4300 hardware and is virtually recession proof. Established in 1918 as a consortium of five major American Insurance companies Afia is expanding its DP facilities significantly and consequently seeks several staff for its Wayne, New Jersey haadquarters.

ANALYST PROGRAMMERS TO $35,000

Candidates should have a minimum of 4 years' mainframe Cobol experienca (less if you have a computer science degrae). Practical experience of CICS and DL/1 is an advantage but training will be provided to candidates who can demonstrate sound programming skills. Design and/or on-line exparience is of special intarest.

Wayne N.J., world headquarters for Afia, is a pleasant suburban community just 30 minutes from Manhattan. Afia employeas enjoy a modern office environmant, cafeteria and social club which includas bowling, darts, etc. Wayne is conveniently located for housing, schools, shopping, etc. plus all kinds of leisure activities such as skiing and watersports.

CPI
HAVE BEEN RETAINED TO CONDUCT INITIAL INTERVIEWS —LONDON — JANUARY 18-22

These will be followed by maetings with the client in early February.
These are permanent positions and offer relocation expenses plus full medical insurance.
To arranga your confidential interview phone Sue Ashby on 01-836 6775 daytimes or 0844 53531 avenings and weekends.

International opportunities also available. Afia is also seaking a number of highly experienced technical specialists for various locations. CICS and DL/1 are mandatory for soma vacancies. Other positions raquira Hardware/Softwere avaluation skills.

Computing Services Association

Computer Personnel International
A DIVISION OF COMPUTER SYSTEMS INTERNATIONAL
30-32 Southampton Street, London W.C.2 01-836 6775

[8044]

Targa

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LONDON — c.£14,000+ MORTGAGE
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HERTS. — c.£12,000
An opportunity to join an expanding department utilising some of the most sophisticated hardware and software currently available. If your background has involved plenty of user contact and development of your own commercial awareness and inter-personal skills our client offers the chance to exploit your abilities to the full in an IBM environment. Benefits are as would be expected from a major Company who are a leader in their field. Ref: R3464

SENIOR ANALYST/PROGRAMMER

CITY — c.£12,000+MORTGAGE
A leading City Bank is seeking an experienced Analyst/Programmer to augment its Data Processing department which is currently utilising Wang equipment for the development of financial and integrated Word Processing systems. This is an excellent opportunity for involvement in all stages of Systems design, programming and implementation with very definite promotional paths open to the right person. A sound COBOL or BASIC programming background is required and experience of financial or banking applications would be particularly welcome. A superb company benefits package is offered including mortgage subsidy. Ref: C3894

PROGRAMMERS

LONDON — To £9,500
A major manufacturing company is seeking two experienced Programmers to enhance its London-based development team. The requirement is for persons with two or more years MACRO experience with DEC equipment working under RSX, RT11 or RTL/2, with some exposure to industrial applications being an added advantage. These are excellent opportunities for progression within a development environment with a company offering a good basic salary plus excellent benefits which include a Profit Sharing scheme and where necessary re-location. Ref: C3305

PROGRAMMERS

BERKS — £7,000-£10,000+BENEFITS
Berkshire currently offers some exceptional opportunities for people with COBOL experience. Three major companies are expanding their DP facility and require programmers at all levels with on-line and structured programming experience. If you are familiar with HP 3000 or IBM 4300 Database software ring Targa immediately for an introduction to these superb positions. Ref: R3467

RPG

LONDON — £8,000-£13,000
Demand for Programmers and Analyst/Programmers with RPG II or RPG III experience still exceeds supply. We are in touch with many clients in industries including Banking, Distribution, Manufacturing and Software Houses offering a choice of a wide range of application areas. Make 1982 the year your career took off – call Targa for an early interview. Ref: RGEN

ANALYST/PROGRAMMERS

CITY — c.£10,000
Our client, a City based commodities house, currently utilising DEC equipment working under RSTSE requires further Analyst/Programmers with sound experience of BASIC and/or BASIC+2. An applications background involving financial or general commercial work would be advantageous but is not essential as a good knowledge of the programming/software disciplines is of prime importance. A salary commensurate with experience will be paid, plus generous company benefits. Ref: C3719

ENGINEERS

BERKS — c.£10,000
A highly successful manufacturing company is seeking experienced engineers to work in the development of microprocessor control systems. These are excellent opportunities for persons with a degree or equivalent who have at least 3 years' experience either in micro-computer software or with micro applications and circuit design. Ref: C3704

ANALYST

KENT — £10,000+MORTGAGE
You may currently be an Analyst Programmer who aspires to/his or her first position involving Analysis only. Our clients are an Insurance Company who are developing a Real-time system using Data base facilities and supporting several remote locations. If you are currently frustrated in the search for a full Analysis role then this could be you – excellent benefits including MORTGAGE. Ref: R3065

SENIOR PROGRAMMERS

ESSEX — c.£9,500
An Essex-based company has a requirement for experienced PROGRAMMERS to work in a busy but interesting ICL environment. Our clients handle a large volume of the transactions for the London insurance market therefore an insurance or financial applications background would be an advantage. A minimum of 3 years' COBOL experience, preferably using ICL equipment is required, allied with the capability to supervise and motivate other programmers. Further programming vacancies occur at other levels and applications are invited from those with slightly less experience. All positions attract an excellent company benefits package. Ref: C3640

SYSTEMS ANALYST & PROGRAMMER

ESSEX — £NEG
Our client, heavily committed to the implementation of new systems involving manufacturing and associated applications, has a requirement for a Systems Analyst and Programmer for their development team. 3 to 4 years' experience are required for the Analyst position and a sound ICL COBOL background, with possibly FILETAB for that of Programmer. As well as an excellent salary, related to experience, an exceptional benefits package applies, which can in certain circumstances include re-location. Ref: C3399

TARGA COMPUTER SERVICES
6 Liverpool Street, London EC2M 7NH 24-hour Ansaphone 01-283 9941

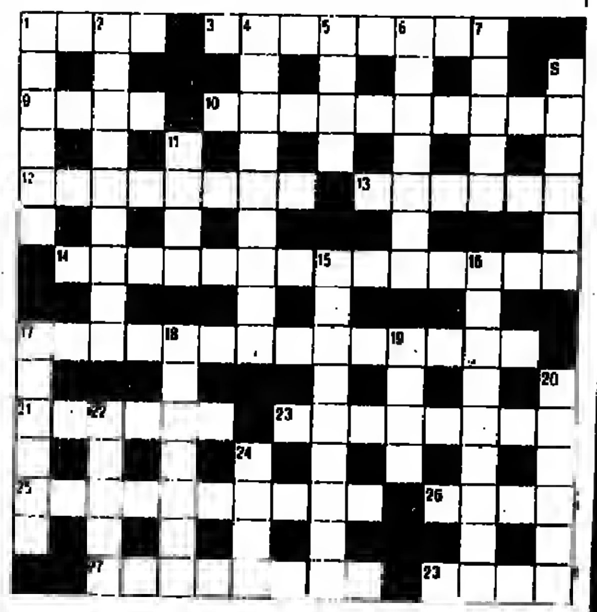
[8010]

CROSSWORD

Prize Crossword No 24

Compiled by Alec Robins

A prize of £10 will be awarded for the first correct entry opened. The second and third solutions opened will receive £5 each. Entries to Crossword Competition, Computer Weekly, Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS, by first post Friday, January 15. Please use a ballpoint to complete the crossword, and include a telephone number at which you can be reached during the daytime.



Name.......................................(Miss, Mrs, Ms, Mr)

Address...

....

Telephone...

I accept the rules and conditions of the Computer Weekly Crossword Competition.

Signed............................ Date............................

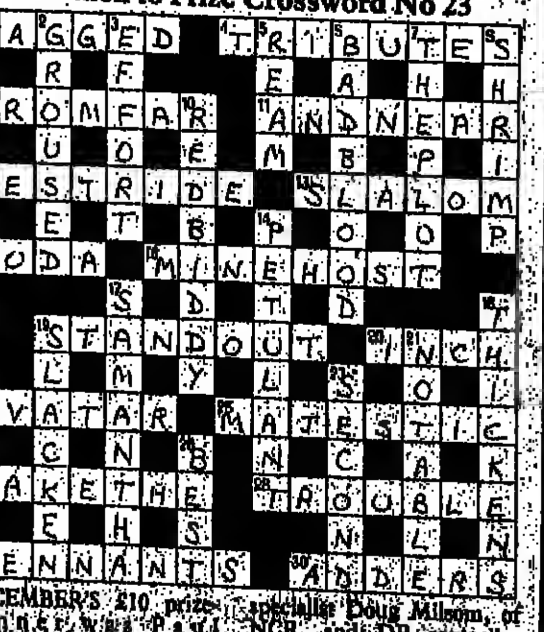
ACROSS

1. Song with a swing inflamed about fifty (4)
3. Dismissed after a short period, explain in detail (5,3)
9. Giant swallows right mixture of alcohol and water (4)
10. Kind of illumination that Aladdin had? (6-4)
12. Slaughter, with horrible screams around one (8)
13. Expert returns to encourage s worthless person (3,3)
14. Being influential, like an overladen porter? (8,6)
17. R-O-M-E, for example! (7,7)
21. Mother and doctor like snakes (6)
23. Quarrel is conducted in silence — that's a bit hard (8)
25. Temperate by nature, I mess about for a change (10)
26. Swarm, caught in a crush indoors (4)
27. Separate — that's prudent, by the sound of it (8)
28. Brought up, b-blushing (4)

DOWN

1. A vegetable like a bean you've to stick in shelter (6)
2. Seems to need musical instrument in hurry! (4,5)
4. A hair-style gathered in a ball, seen in a factory (5-4)
5. Learning a tricky role (4)
6. Atrocious act, bringing an end to Parliament in our time (7)
7. Article about an old clan's chief (5)
8. Peg, a greedy eater, grabbed by a drunkard (6)
11. Noisy tune, passable (4)
15. Older relative shows wild rage over libe (5-4)
16. One who embellishes a dish, as herring, soused (9)
17. One of a beaten pair gives a sign, we hear (6)
18. Afternoon services irritate — holy man's upset (3-4)
19. Small tassel displayed by female amid sound of disapproval (4)
20. Called coppers, brought to the peak of keenness? (6)
22. American chucked into the sea was meditative (5)
24. The last carriage that is used in the rail system (4)

Solution to Prize Crossword No 23



DECEMBER'S £10 prize winner was Paul Woodward, a programmer with E. J. Arnold. Software specialist Doug Milsom, of NCR, and DP controller Roy Parkinson, of Citicorp, get £5 each.

DATACOMMUNICATION NETWORK TECHNICIAN

Up to £8,850

SACS is a wholly owned associated company of the major Clearing Banks. The main activity of the company is to provide an electronic funds transfer service to the banks and their customers.

To complement the current and planned expansion of telecommunication services, the company is seeking personnel who hold formal technical qualifications (HNC or equivalent) and have several years experience in data communication.

Applicants will be expected to have a thorough knowledge of current datacommunication techniques and diagnostic practices associated with the operation and support of large communication networks and must be prepared for shift working in due course.

Excellent benefits are offered in addition to a competitive salary, which will include -

- Profit Sharing
- Over 4 weeks' annual holiday
- Non-contributory pension & life assurance scheme
- Subsidised staff restaurant
- Sports & Social Club
- Relocation assistance, if necessary

For further details and an application form please telephone Mrs R Siddors on 01-952 2333 or write to her at:-

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De Havilland Road
Edgware HA8 5QA
Middlesex

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Application form, job description and further details available from the County Treasurer, Greater Manchester Council, County Hall, Piccadilly Gardens, Manchester M60 3HR. Closing date – 8th January 1982.

(7952)

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STATES OF GUERNSEY ELECTRICITY BOARD

Systems Analyst

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The equipment comprises an ICL ME28 and various systems are being developed for use on ICL 7502 terminal equipment.

There is a vacancy for a SYSTEMS ANALYST who can design and specify systems for users of the Bureau.

The successful applicant will possess a degree or HND in computer studies plus suitable practical experience in programming and designing systems and the potential for advancement in data processing management. We are looking for experience in both batch and on-line systems combined with a knowledge of the ICL ME29 TME, CL, MAC and 7800 TE facilities.

Preference will be given to applicants with Guernsey residential qualifications but in the absence of a suitable candidate with these qualifications a housing licence may be obtained.

For further details please contact the Data Processing Manager, PO Box 4, Electricity House, North Side, Vale, Guernsey, Tel Guernsey 46931. Ext 180, from whom an application form may be obtained. The closing date for applications will be Monday, 18 January 1982.

7995

SALES BIT

Overcoming sales resistance

Instinctive response is often best

THIS week, three techniques for handling sales "objections" which are fairly obvious, even instinctive reactions.

Questioning

In some circumstances, a sales "objection" needs to be qualified, either because the salesperson does not understand it, or because he feels it is unjustified or even a subterfuge. It could be said that salespeople tend to retreat to questioning whenever they are in trouble.

However, in this instance, I am dealing with questioning when used as a positive device for progressing the sales negotiation and validating the substance of sales "objections" by putting the onus of proof on the buyer.

Questioning is probably the least likely of all rebuttal techiques to instigate a confrontation, because it allows the buyer to make his own pronouncements while the salesperson takes the apparently subdominant stance of asking questions. But questioning can, in some circumstances, create difficulties or even embarrassment for the buyer.

Therefore, the salesperson's manner of interrogation must be calm, quiet and sincere. The objective of this technique is to make the buyer reconsider his original "objection" in the belief that such a review will either diminish its significance or even neutralise it altogether.

"Your system does not cater for both Imperial and Metric values."

"That's true, Mr Prospect. How essential is this facility for your needs?"

"A product made of fibreglass is unlikely to be strong enough to meet our requirements."

"Do you think so? What are your precise requirements and what has your past experience of fibreglass revealed?"

"Your equipment appears to efficient, but I'm not happy about its appearance."

"I must say we do find that tastes differ radically from company to company; but how important is appearance in terms of the task to be undertaken?"

It is surprising how often people respond positively to questioning by someone who is sincerely interested, particularly if it gives them the opportunity of expounding their theories or offloading their problems.

Blind Eye

During the course of pursuing their occupation, salespeople are exposed to a substantial amount of flak.

Unfortunately, many salespeople feel obliged to reply to any resistance put in their direction and, in doing so, become involved in triviality which is time consuming and distracting. Clearly, the salesperson has to identify positively whether a question is truly relevant, because it is easy to give offence.

Once convinced that a question is pointless, the salesperson is best advised to turn a blind eye and proceed as if nothing had been said.

Examples of meaningless "objections" are myriad. Often they refer to irrelevant product features or the claims of competitors. Sometimes they can be a function of hearsay, speculation, hypothesis — the possibilities are endless.

Then there are classics like "We don't want any!" typically delivered before the salesman reveals the nature of his proposition. What nonsense: how can the prospect not want any of something he knows nothing about? Best ignore it!

There are other pointless "objections" that do not justify direct response but have an implied message that needs to be appreciated. Is the buyer asking the salesperson to go away or is he trying to conceal the reason for not buying?

This is one of the many situations where sales sensitivity is of paramount importance; to take up issue or brush aside and carry on regardless? There is little alternative but to trust one's instincts.

Inapplicability

This is a near neighbour of the previous item, the subtle difference being that between irrelevant and inapplicable. Sometimes, the buyer will raise a sales "objection" that he believes to be pertinent but, in reality, the basis of his argument is incorrect.

"Your price is higher than that of other suppliers."

"That may appear to be so, but our price includes delivery and installation as well as complete supply of consumables, sufficient for approximately three months of normal usage. Our competitors treat these as extras. In total, our price is actually cheaper than that of most other suppliers of this kind of product."

If the buyer is misinformed, he not only needs to be told, with suitable courtesy, but also wants to be told. No buyer worth his salt wishes to condone his own ignorance.

Alan Williams

Computeach course

PEOPLE interested in the Computeach Computer Management Information Technology course, in which most of the work is carried out in the student's own time, should contact (021) 455 9050 and not the number given in the last issue.

PUZZLE ANSWER

THE trick is to realise that Black's King's-side Knight is now standing where his Queen's Knight was originally! The four-move "game" is: 1 N-KB3, N-KB3; 2 N-K5 (or Q4), P-Q3; 3 N-QB6, N(KB3)-Q2; 4 NxN, NxN.